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JEFFERSON, CHARLES E. — LATIN



JEFFERSON, Charles Edward, American Congregational clergyman: b. Cambridge, Ohio, Aug. 29, 1860; d. Fitzwilliam Depot, N. H., Sept. 12, 1937. He was ordained minister in 1887 and until 1898 was pastor of the Central Congregational Church, Chelsea, Mass. In 1898 he became pastor of the Broadway Tabernacle, New York, N. Y., where he preached for 32 years.

JEFFERSON, Joseph, actor: b. Plymouth, England, 1774; d. Harrisburg, Pa., Aug. 4, 1832. He was the son of Thomas Jefferson, the manager of the Plymouth Theatre, and was trained as a player in his father's company. He went to America in 1795, where, after a brief appearance in Boston and 7 years in New York, he became a member of the Chestnut Street Theatre in Philadelphia. There he remained until two years before his death, and was known as "Old Jefferson" because of his success in elderly parts.

JEFFERSON, Joseph, American actor: b. Philadelphia, Feb. 20, 1829; d. Palm Beach, Fla., Apr. 23, 1905. He was the fourth in line of a family of actors and the grandson of Joseph Jefferson (1774-1832). At the age of four he appeared in one of the then famous "Jim Crow" entertainments presented by Thomas Dartmouth Rice in Washington, D.C. His father, also named Joseph, died in 1842, and the young Jefferson began a career of barnstorming in the southern states, following the army into Mexico and appearing in Chanfrau's Theatre in New York and in Philadelphia and Baltimore. Becoming known as an excellent stock player, he visited Europe for study in 1856 and in November of that year joined Laura Keane's company in New York. His prominence began with his appearance as Dr. Pangloss in *The Heir at Law* and his creation of Asa Trenchard in Tom Taylor's *Our American Cousin* in 1858. He next appeared as Caleb Plummer in Dion Boucicault's version of *The Cricket on the Hearth* and as Salem Scudder in Boucicault's *The Octoroon*. In 1860 Jefferson appeared in a dramatization of *Rip van Winkle* in Washington, but was dissatisfied with it and had the play rewritten by Boucicault. Jefferson's *Rip* was an immediate success at the Adelphi Theatre, London, in 1865, and at the Olympic Theatre, New York, in 1866, and from that time the actor added few parts to his repertory, except for a new characterization of Bob Acres in *The Rivals*, which opened at the Arch Street Theatre, Philadelphia, in 1880. After 1866 his tours of the country and his

appearances in London (1875-1877) were a succession of triumphs. Jefferson was also well known as a painter, chiefly of impressionistic landscapes, and his *Autobiography of Joseph Jefferson* (1890) is considered a masterpiece of its kind.

Consult Winter, W., *The Jeffersons* (Boston 1881); Wilson, F., *Joseph Jefferson* (New York 1906); Jefferson, E. P., *Intimate Recollections of Joseph Jefferson* (New York 1909).

JEFFERSON, Thomas, American statesman, third President of the United States; b. Shadwell, Albemarle County, Va., April 13, 1743 (N.S.); d. Monticello, Albemarle County, Va., July 4, 1826. He was the son of Peter Jefferson, a successful planter and well-known surveyor, and Jane Randolph, who came of a famous Virginia family. Inheriting a considerable landed estate, he doubled it by his happy marriage (Jan. 1, 1772) with Martha Wayles Skelton, which also burdened him with inescapable debt.



Thomas Jefferson.

He was well educated in small private schools, where he was thoroughly grounded in the classics, and (1760-1762) at the College of William and Mary, where William Small taught him mathematics and introduced him to science. He associated intimately with the liberal-minded Governor Francis Fauquier, and read law (1762-1767) with George Wythe, greatest law teacher of his generation in Virginia, himself becoming unusually learned in the law. Practicing (1767-1774) until the courts were closed by the American Revolution, he was a successful lawyer, though his professional income was only a supplement to his living. He began building operations at Monticello before his marriage, but his famous mansion was not completed in its present form until a generation later.

His lifelong emphasis on local government grew directly from his own experience. He served as magistrate and vestryman, and at the age of 27 became county lieutenant. Elected to the House of Burgesses when he was 25, he served there, 1769-1774, showing himself to be an effective committee man and skillful draftsman, though not a ready speaker.

From the beginning of the struggle with the mother country he stood with the more advanced patriots or Whigs, and he grounded his position on a wide knowledge of English history and political philosophy. His most notable early contribution to the cause of the patriots was his powerful pamphlet, *A Summary View of the Rights of British America* (1774), originally written for presentation to the Virginia convention of that year. In this he emphasized natural rights, including that of emigration, and denied parliamentary authority over the colonies, recognizing no tie with the mother country except the king. As a member of the Continental Congress (1775-1776), he was chosen in 1776 to draft the Declaration of Independence. He summarized current revolutionary philosophy in a brief paragraph which has been regarded ever since as a charter of American and universal liberties; and he presented to the world the case of the patriots in a series of burning charges against the king. The Declaration is rightly regarded as one of Jefferson's major titles to enduring fame.

Partly for personal reasons and also in the hope of translating his philosophy of human rights into legal institutions in his own state, he left Congress in the autumn of 1776 and served in the Virginia legislature until his election as governor (June 1, 1779). This was the most creative period of his revolutionary statesmanship. Earlier proposals of his for broadening the electorate and making the system of representation more equitable had failed, and the times permitted no action against slavery except that of shutting off the foreign slave trade. But he succeeded in ridding the land system of aristocratic feudal vestiges, such as entail and primogeniture, and he was the moving spirit in the disestablishment of the church. With George Wythe and Edmund Pendleton he drew an elaborate and highly significant report on the revival of the laws (1779). His most famous single bills are the Bill for Establishing Religious Freedom (adopted in 1786), and the Bill for the More General Diffusion of Knowledge (never adopted as he drew it). His fundamental purposes were to destroy artificial privilege of every sort, to promote social mobility, and to make

way for the natural aristocracy of talent and virtue, which should provide leadership for a free society.

As governor (1779-1781) Jefferson had little power, and he suffered inevitable discredit when the British invaders overran Virginia. An inquiry into his conduct was then voted. He was fully vindicated by the next legislature, but these charges were afterwards exaggerated by political enemies and he was hounded by them to some extent throughout his national career. The most important immediate effect of his troubles was to create in his own mind a distaste for public life, which persisted in acute form until the death of his wife (Sept. 6, 1782) reconciled him to a return to office, and an aversion to controversy and censure from which he never recovered wholly.

During this brief private interval (1781-1783) he compiled his *Notes on Virginia*, which were first published when he was in France (1785). This work was described at the time by competent authority as "a most excellent natural history not merely of Virginia but of North America." It afterwards appeared in many editions, and it was the literary foundation of his deserved reputation as a scientist. In the Continental Congress (1783-1784) his most notable services were connected with the adoption of the decimal system of coinage, which later as secretary of state he tried vainly to extend to weights and measures, and with the Ordinance of 1784. Though not adopted, the latter foreshadowed many features of the famous Ordinance of 1787. Jefferson went so far as to advocate the prohibition of slavery in all the territories.

His stay in France (1784-1789), where he was first a commissioner to negotiate commercial treaties and then Franklin's successor as minister, comprised in many ways the richest period of his life. He gained genuine commercial concessions from the French, negotiated an important consular convention (1788), and served the interests of his own weak government with diligence and skill. He was confirmed in his opinion that France was a natural friend of the United States, and Great Britain at this stage a natural rival, and thus his foreign policy assumed the orientation it was to maintain until the eve of the Louisiana Purchase. The publication of his *Notes on Virginia* was symbolic of his unofficial services to the French, and those to his own countrymen were exemplified by the books, the seeds and plants, the statues and architectural models, and the bits of scientific information that he sent home. His stay in Europe contributed greatly to that universality of spirit and diversity of achievement in which no other American statesman, except possibly Franklin, ever equalled him.

Toward the end of his mission he reported with scrupulous care the unfolding revolution. His personal part in it was slight, and such advice as he gave was moderate. Doubting the readiness of the people for self-government of the American type, he now favored a limited monarchy for France, and he cautioned his liberal friends not to risk the loss of their gains by going too fast. Though always aware of the importance of French developments in the world-wide struggle for greater freedom and happiness, he tended to stress this more after he returned home and perceived the dangers of political reaction in his own country. Eventually he was

repelled by the excesses of the French Revolution, and he thoroughly disapproved of it when it passed into an openly imperialistic phase under Napoleon. But insofar as it represented a revolt against despotism he continued to believe that its spirit could never die.

Because of his absence in Europe, Jefferson had no direct part in the framing or ratification of the American Constitution, and at first the document aroused his fears. His chief objections were that it did not expressly safeguard the rights of individuals, and that the perpetual reeligibility of the president would make it possible for him to become a king. He became sufficiently satisfied after he learned that a bill of rights would be provided, and after he reflected that there would be no real danger of monarchy under George Washington. His fears of monarchical tendencies remained and colored his attitude in later partisan struggles, but it was as a friend of the new government that he accepted the offer of the secretaryship of state.

During Jefferson's tenure of this office (1790-1793) Alexander Hamilton, secretary of the treasury, defeated the movement for commercial discrimination against the British (1791) which he favored; and connived with the British minister George Hammond so as to nullify Jefferson's efforts (1792) to gain observance of the terms of peace from the British, and especially to dislodge them from the northwest posts. Jefferson's policy was not pro-French but it seemed anti-British. Hamilton was distinctly pro-British, largely for financial reasons, and he became more so when general war broke out in Europe and ideology was clearly involved. In 1793 Jefferson wanted the French Revolution to succeed against its external foes, but he also recognized that the interests of his own country demanded a policy of neutrality. Such a policy was adopted, to the dissatisfaction of many strong friends of democracy in America, and was executed so fairly as to win the reluctant praise of the British. At the same time, Jefferson avoided an open breach with France.

Jefferson helped Hamilton gain congressional consent to the assumption of state debts, for which the location of the federal capital on the Potomac was the political return. His growing objections to the Hamiltonian "system" were partly owing to his belief that the Treasury was catering to commercial and financial groups, not agricultural, but he also believed that Hamilton was building up his own political power by creating ties of financial interest and was corrupting the legislature. The issue between the two secretaries was sharply joined by 1791, when the Bank of the United States was established. They gave to the president their now-famous rival interpretations of the Constitution in this connection. The victory at the time and in the long run was with Hamilton's doctrine of liberal construction, but Jefferson's general distrust of power and his reliance on basic law as a safeguard has enduring value in human history.

By late 1792 or 1793 the opponents of Hamiltonianism constituted a fairly definite national party, calling itself Republican. Jefferson's recognized leadership of this group can be more easily attributed to his official standing and his political philosophy than to his partisan activities. In the summer and autumn of 1792, by means of anonymous newspaper articles, Hamilton sought to drive Jefferson from the govern-

ment. The alleged justification was the campaign being waged against Hamilton by the editor of the *National Gazette*, Philip Freneau. Jefferson had unwisely given Freneau minor employment as a translator for the State Department, but he claimed that he never brought influence to bear on him, and there is no evidence that he himself wrote anything for the paper. But he had told Washington precisely what he thought of his colleague's policies, and had already said that he himself wanted to get out of the government. Early in 1793 the Virginians in Congress vainly sought to drive Hamilton from office or at least to rebuke him sharply for alleged financial mismanagement. Jefferson undoubtedly sympathized with this attack and he was probably consulted about it. A degree of unity was forced on the president's official family by the foreign crisis of 1793, which also caused Jefferson to delay his retirement to the end of the year.

During a respite of three years from public duties he began to remodel his house at Monticello and interested himself greatly in agriculture, claiming that he had wholly lost the "little spice of ambition" he had once had. Nonetheless, he was supported by the Republicans for president in 1796, and, running second to John Adams by three electoral votes, he became vice president. His *Manual of Parliamentary Practice* (1801) was a tangible result of his presiding over the Senate; and his papers on the megalonyx, and on the moldboard of a plow invented by him, attested his scientific interests and attainments. These papers were presented to the American Philosophical Society, of which he became president in 1797. A private letter of his to Philip Mazzei, published that year, was severely critical of Federalist leaders and was interpreted as an attack on Washington. His partisan activities increased during the quadrennium, especially 1798-1800. He deplored the Federalist exploitation of the French issue, following the publication of the XYZ Correspondence, but his sympathy with France had declined. He disapproved of the Adams administration chiefly because of the notorious Alien and Sedition Acts, and his grounds were both philosophical and partisan. The historic Republican protest against laws that attempted to suppress freedom of speech and to destroy political opposition was made in the Virginia and Kentucky resolutions (1798). Jefferson wrote the latter as James Madison did the former, though his authorship was not known at the time, and in them he carried his state-rights doctrines to their most extreme point in his entire career. In invoking the states against laws which he regarded as unconstitutional, his resolutions were in the tradition which finally led to nullification and secession; but he was championing freedom, not slavery, and they were also in the best tradition of civil liberties and human rights.

The defeat of John Adams in the presidential election of 1800 can be partially explained by the dissension among the Federalists, but as a party they were now much less representative of the country than the Republicans. Jefferson's own title to the presidency was not established for some weeks, since he was accidentally tied with his running mate, Aaron Burr, under the workings of the original electoral system. The election was thrown into the House of Representa-

tives, where the Federalists voted for Burr through many indecisive ballots. Finally, enough of them abstained to permit the obvious will of the people to be carried out. Jefferson's own designation of the Republican victory as a "revolution" was hyperbolic. He had no intention of upsetting the financial system which was now firmly established, and he regarded himself as more loyal to the Constitution than his foes, though he was less a strict constructionist in practice than in theory. But he had checked the tide of political reaction, and he brought to his office a spirit of humane liberalism which was then exceedingly rare among the rulers of the world.

The political success of Jefferson's first term was attested by his easy re-election. Apart from foreign danger, his rather negative interpretation of the functions of the federal government suited the times. He exercised real leadership over Congress, but this was tactful and indirect. He restored the party balance in the civil service, but he was conciliatory in spirit and maintained essentially the same personal standards as his predecessors. In Madison, his secretary of state, and Albert Gallatin, his secretary of the treasury, he had lieutenants of the first caliber. He was relatively unsuccessful in his moves against the judiciary, which had been reinforced by fresh Federalist appointees at the very end of the Adams administration. He treated as null and void late appointments which seemed of doubtful legality, and the Republicans repealed the Judiciary Act of 1801 with his full approval, but he was rebuked by Chief Justice John Marshall in the famous case of *Marbury v. Madison* (1803). The effort to remove partisan judges by impeachment was a virtual failure, and the Federalists remained entrenched in the judiciary, though they became less actively partisan.

These partial political failures were more than compensated by the purchase of Louisiana (1803), the most notable achievement of Jefferson's presidency. His concern for the free navigation of the Mississippi had caused him, while secretary of state, to assume a more beligerent tone toward Spain, which controlled the mouth of the river, than toward any other nation. The retrocession of the province of Louisiana to France, now powerful and aggressive under Napoleon, aroused his fears and, for the first time in his career, caused his diplomatic friendship to veer toward the British. The acquisition of an imperial province, rather than the mouth of the river, was a fortunate accident, saving the West to the American union and the Republican Party. The treaty which Robert R. Livingston and James Monroe sent home aroused constitutional scruples in Jefferson's mind, but this was no time for constitutional purism and the president yielded to his friends, while strict constructionist arguments were taken up ineffectually by the New England Federalists.

During his first term Jefferson was subjected to a torrent of abuse from the Federalist newspapers which temporarily shook but did not destroy his confidence in a free press. He interpreted his re-election as proof of the wisdom of tolerance. He had more need to rely on his political popularity in his second term than in his first. The unsuccessful attempt to convict Aaron Burr (1807) of treason discredited him somewhat, and involved him in a political duel with Chief Justice Marshall. His major effort to

safeguard American rights during the relentless duel between the British and Napoleon was the Embargo Act (1807), which sought to bring economic pressure on them both by suspending American commerce. In the attempt to enforce this measure, which was particularly unpopular in commercial New England, the government exercised arbitrary power and infringed on individual rights, thus violating some of Jefferson's most cherished principles; and, for a variety of reasons, it failed of its purpose. At the very end of his term he signed an act which partially repealed it. Thus he retired from the presidency at a low point in his own popularity.

During the remainder of his life (1809-1826), he remained at home in Virginia. His failures tended to be forgotten, and as the Sage of Monticello he engaged in vast correspondence, with John Adams among others, which is in many ways the richest of his life. His last great public service was the founding of the University of Virginia (chartered 1819). He inspired the legislative campaign for a university, got it located in his own county, planned the buildings, outlined the course of study, and served as the first rector. He had long been troubled by debt, and the failure of a friend whose note he had endorsed brought him to virtual bankruptcy. But he was rich in honor, friendship, and domestic happiness when he died at Monticello on the 50th anniversary of the Declaration of Independence, a few hours in advance of John Adams.

He was a tall man, not specially prepossessing in appearance and rather indifferent to externalities of dress as he grew older, but amiable and generous in all personal relations. In his time he was the most conspicuous American patron of learning, science, and the useful arts—making distinctive contributions of his own in natural history and architecture. His policies were of their own day, and he himself said, "The earth belongs always to the living generation." But in its emphasis on the centrality of human rights and the supreme importance of freedom his philosophy is universal. He remains the best American exemplar of hostility to every form of tyranny.

Bibliography.—*The Papers of Thomas Jefferson*, ed. by J. P. Boyd and others (Princeton 1950-), being published in more than 50 vols., will supersede all other collections. Of previous collections of his writings, the best edited is that of P. L. Ford, 10 vols. (Philadelphia 1892-99), and the most extensive is that of A. A. Lipscomb and A. E. Bergh, 20 vols. (Washington 1903). Distinctive among separate publications are: Chinard, Gilbert, ed., *The Commonplace Book of Thomas Jefferson* (Baltimore 1926); Betts, E. M., ed., *Thomas Jefferson's Garden Book* (Philadelphia 1944); Boyd, J. P., *The Declaration of Independence: the Evolution of the Text* (Princeton 1945).

Much of the foregoing article is based on Dumas Malone, *Jefferson the Virginian* (Boston 1948), and *Jefferson and the Rights of Men* (Boston 1951), comprising vols. 1-2 of *Jefferson and His Time* (projected in 5 vols.). H. S. Randall, *Life of Thomas Jefferson*, 3 vols. (Boston 1858), remains the most extensive biography and is still valuable.

Among more recent works, the following are of special interest and importance: Kimball, F., *Thomas Jefferson, Architect* (Boston 1916); Bowers, C. G., *Jefferson and Hamilton* (Boston 1925); Honeywell, R. J., *The Educational Work of Thomas Jefferson* (Cambridge 1931); Chinard, Gilbert, *Thomas Jefferson* (Boston 1939); Koch, A., *Philosophy of Thomas Jefferson* (New York 1943); Dumbauld, E., *Thomas Jefferson, American Tourist* (Norman, Okla., 1946).

DUMAS MALONE,

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JEFFERSON, city, Iowa, and Greene County seat; 66 miles northwest of Des Moines; on the Chicago, Milwaukee, St. Paul and Pacific;

and the Chicago and North Western railroads. Jefferson is in an agricultural and coal mining region, and is a trading and shipping center. Industries include metal manufactures; livestock remedies; creameries; and egg and poultry packing plants. The city was settled about 1854 and was named for Thomas Jefferson. Pop. (1940) 4,088; (1950) 4,324.

JEFFERSON, city, Texas, and Marion County seat; on Big Cypress Bayou at the west end of Caddo Lake; 51 miles southwest of Texarkana; on the Texas and Pacific; Louisiana and Arkansas; and the Jefferson and Northwestern railroads. Jefferson is in a region producing cotton, corn, strawberries, timber and oil; and manufactures cottonseed oil and oil well supplies. The city was founded in 1836 on Trammel's Trace, the route followed by Sam Houston. In its early days it was the most important river port in Texas; Caddo Lake and Red River being then navigable to the Mississippi. Pop. (1940) 2,797; (1950) 3,161.

JEFFERSON, city, Wisconsin, and Jefferson County seat; altitude 792 feet; on Rock and Crawfish rivers; and on the Chicago and North Western Railroad, 25 miles northeast of Janesville. In an agricultural region, it has food-processing plants; also shoe and furniture factories, and woolen and carding mills. Here the county has an asylum and home, and a county farm. The St. Coletta School for Exceptional Children is located here. American Legion Park provides recreational facilities. Jefferson has mayor and council. Pop. (1950) 3,620.

JEFFERSON, river, Montana, a stream about 200 miles long, formed by the union of the Beaver Head and Wisdom (or Big Hole) rivers in Madison County. It unites with the Madison and Gallatin to form the Missouri.

JEFFERSON, State of, the name proposed for what is now the State of Colorado. In 1859 delegates met in an endeavor to establish a provisional government. A constitution was adopted for the "State of Jefferson" with an area somewhat larger than that of Colorado, extending from 37° to 43° north latitude and from 102° to 110° west longitude. The opposition to a state led to a second convention which, under the fiction of erecting a territory, established a new state and called it the "Territory of Jefferson." The constitution adopted by the first convention was ratified but never went into effect. The constitution adopted by the second convention was almost unanimously ratified Oct. 24, 1859, on which day a full complement of state officers was elected. The new territory was constantly embroiled with its neighbor territories, and when it was recognized by Congress in 1861, it was given the name of Colorado.

JEFFERSON BARRACKS, United States Army post, Missouri, a reservation in St. Louis County; altitude 418 feet; on the Mississippi River; 13 miles south of St. Louis; on the Missouri Pacific Railroad. The site was selected in 1826, replacing old Fort Bellefontaine on the Missouri River as a midwestern center for movements of troops and supplies. It was named in honor of Thomas Jefferson who had died that year. The reservation covers approximately 1,700 acres.

JEFFERSON-BURR IMBROGLIO, Imbrōlyō, a disputed presidential election which resulted from a defective clause in the Constitution and caused its amendment in 1800. By its original provisions, the person who received the highest number of electoral votes should be president, the next highest vice president. Each set of electors had informally agreed that to save the pride of the leading candidates (Jefferson and Burr, Adams and Pinckney) each pair should have equal votes, and with one exception never reflected that this meant a tie; one Rhode Island Federalist elector cast his second vote for John Jay instead of Pinckney, and there is an unproven charge that Burr intrigued for an extra vote over Jefferson. They, however, received 73 each, and the Federalist House had to choose between the two Democratic candidates. Rules were adopted for the balloting, among the chief being that the Senate should be admitted, that the balloting should be in secret session and that the House should not adjourn till a choice was made. The Federalists in caucus decided to vote for Burr; perhaps partly to spite the Democrats—Jefferson being their great national leader and the great Federalist terror, and the man the Democrats had intended to vote for as president—and partly because Burr as a New York man would consult Northern commercial interests, which the Virginian Jefferson might antagonize. They were right in this; Burr would not have laid the embargo. Their solid vote would have elected Burr by one (nine out of 16 states); but they could not hold their members, three of whom bolted and voted for Jefferson to satisfy public feeling in their districts. Thus Jefferson had eight states, Burr six, and Vermont and Maryland were divided. But the Burr electors in the last two secretly agreed with Bayard of Delaware, who had also voted for Burr, that if there were likely to be bad blood and danger from prolonged balloting, they would stop it by voting for Jefferson. The casting vote thus lay with Bayard, who justly commanded confidence; but as the agreement was not known the situation seemed much more perilous than it was. The balloting lasted a week without change. Some of the Federalists plotted to have it last till John Adams' term expired, and then let the others fight it out, or leave it by special act to Chief Justice John Marshall (Federalist), as a sort of regent trustee. The Democrats countered by resolving either to have Jefferson and Burr jointly (one of them certainly being president) call a special session, or to seize the capital by a militia force, call a convention, and revise the Constitution. Finally, after 34 ballots, the confederate electors decided that if Jefferson would give a guarantee for the civil service, he should have the election after one more ballot; he gave the guarantee, and was elected on the 36th ballot by 10 to 6 (states). Burr became vice president; that the attempt to put him at the head was mainly due to real fear for commerce is made probable by the fact that every New England state except the one (Vermont) which had no commerce voted for him to the last. This affair resulted in the passage of the Twelfth Amendment which obliged the electors to specify their choice for the offices on distinct ballots, and enlarge the range of choice to three candidates in case of tie.

JEFFERSON CITY, city, Missouri, state capital and seat of Cole County. Named for Thomas Jefferson, the city occupies 9.9 square miles and lies on the south bank of the Missouri River about 121 miles west of St. Louis, at an altitude of 625 feet. The city is on three federal highways, is served by the Missouri Pacific and the Missouri-Kansas-Texas railroads, and has an airport for charter service and private planes.

Besides being the state's political center, Jefferson City is the trading center for a radius of 50 miles, and contains manufacturing and processing plants which produce (among other things) shoes, work clothes, furniture, flour, dairy products, and dolls.

The city is governed by a mayor and a council whose members are elected from each of the city's wards. In addition to its public school system (which includes a junior college) Jefferson City has parochial schools for the children of its Catholic and Lutheran population; and Lincoln University for the higher education of Negroes, who represent approximately 10 per cent of the city's total residents. The university dates from 1866, when two Negro Civil War regiments that had been mustered out, raised funds to start the institution which was later (1879) taken over by the state. Among the city's churches, 16 denominations are represented. Jefferson City's library facilities include public libraries, the library in the Cole County Historical Society, and the state library, said to house one of the finest law collections in the United States.

State buildings located in the city include that of the Missouri Supreme Court, the Missouri State Penitentiary, the Executive Mansion, the state Office Building, and the Capitol. The first and second capitol were destroyed by fire (1837 and 1911). Jefferson City's third capitol, completed in 1917, is of special interest not only because it is an imposing building of Carthage marble, designed in an adaptation of the Italian Renaissance style, but also because of the works of art inside it or on its grounds, such as murals by Thomas Hart Benton and sculptural works by Robert I. Aitken, James E. Fraser, Alexander S. Calder, Adolph A. Weinman, Karl T. F. Bitter, and Hermon A. MacNeil. In the Capitol are also the Soldiers and Sailors Museum (containing historic relics) and the Missouri Resources Museum (displaying commercial exhibits, as well as exhibits of the state's natural resources).

History.—In December 1821, a few months after Missouri was admitted to the Union, a very small river settlement which had assumed the ambitious name of City of Jefferson was chosen as the site of the state's capital. It was platted the following year, incorporated as a town in 1825, and reincorporated as a city in 1839. Growth was slow, however. By 1840, exclusive of slaves, its population was less than 1,000. Until about 1860, increment came largely through settlement by German immigrants. Nevertheless, stage and steamboat services were established, and in 1856 a railroad connected St. Louis and Jefferson City. The capital now became important as a transfer point from railroad to packet boat on the journey to the West. Industrial progress was halted by the Civil War, and growth was not resumed until the 1880's. In 1881 the first shoe factory in Jefferson City was established, and by the early 1900's Missouri's cap-

ital was the largest producer of footwear west of the Alleghenies. Most of the city's working population is employed by the local or state governments.

Population.—Between 1890 and 1930, population increased from 6,742 to 21,596. In 1950 the population was 24,990.

JEFFERSONTON, Engagement at. Early in October 1863 the Army of the Potomac, under command of Gen. George G. Meade, lay around Culpeper Court House, with the advance of two corps on the Rapidan. General Lee, who was south of the Rapidan, determined to flank Meade's position, seized the Orange and Alexandria Railroad north of the Rappahannock, and intercept his retreat upon Washington. Informed of the movement, Meade withdrew his army to the north side of the Rappahannock, October 11, his rear-guard of cavalry having a sharp engagement with the Confederate cavalry at Brandy Station. Believing that the Confederate Army was moving upon Culpeper, Meade turned about and on the 12th threw three infantry corps and a cavalry division south of the Rappahannock, with instructions to push forward and find and strike Lee, if at Culpeper. When they reached Brandy Station the Confederate Army was nowhere in that neighborhood. At this time Gen. David McMurtre Gregg's division of Union cavalry was guarding the upper fords of the Rappahannock and Hazel rivers; on the morning of the 12th Colonel Gregg's brigade crossed the Rappahannock near Sulphur Springs; his pickets at Jeffersonton being driven in, he marched for that place, found it in possession of the enemy, drove them from the town and occupied it. That morning Fitzhugh Lee's cavalry division, leading the Confederate advance from near Madison Court House, crossed Hazel River at Stark's Ford and pressed on toward the Rappahannock. The 11th Virginia Cavalry drove Gregg's skirmishers into Jeffersonton and attacked the two regiments in the town, but was driven out after losing several men. The 7th and 12th Virginia were now sent to the left and right, encircling the town, a combined attack was made, and Gregg was utterly routed and driven across the Rappahannock, with a loss of about 400 men, most of them captured. The Confederate loss was about 40 killed and wounded. When Meade heard of the engagement, and that Lee was crossing the Rappahannock at Warrenton Springs, he hastily recrossed the river, withdrew to Auburn and Catlett's Station and, on the 14th, to Centreville, Lee following closely and attacking his rear at Auburn and Bristoe Station during the day.

Consult *War of Rebellion—Official Records*, vol. 29 (Washington 1889-1901); Walker, F. A., *History of the Second Army Corps* (New York 1886).

JEFFERSONVILLE, city, Indiana, and Clark County Seat; altitude 458 feet; on the Ohio River near the Falls of the Ohio and opposite Louisville, Ky.; 107 miles southeast of Indianapolis; on the Pennsylvania; Cleveland, Cincinnati, Chicago and St. Louis; and Baltimore and Ohio railroads; has river boat service, and is connected with Louisville by bridges. The municipal bridge connecting it with Louisville was built in 1930. At one time shipbuilding was Jeffersonville's principal industry, fleets of Mis-

Mississippi River packets and barges going out from its yards. At the U.S. Army Quartermaster Depot, within the city, supplies are manufactured for troops in nearby states; there was a supply base here in Civil War times, but the present depot was established in 1872, by Maj. Gen. M. C. Meigs (q.v.). Industries of the city include burial vaults and monuments, cement, building blocks and other building material, and smokeless gunpowder. The city is on the site of Fort Steuben, settled in 1786. Jeffersonville was laid out in 1802 and named for Thomas Jefferson, at that time president of the United States. In 1825 it was visited by Lafayette, and there is a monument to him in one of the city parks. It was incorporated as a town in 1815 and as a city in 1830. Government is by mayor and council. Pop. (1950) 14,671.

JEFFERY, Edward Turner, American railroad president: b. Liverpool, England, April 6, 1843; d. New York City, Sept. 24, 1927. He came to the United States in 1850 and in 1856 entered the employ of the Illinois Central Railroad Company, of which he became general superintendent in 1877-1885, and general manager in 1885-1889, when he resigned. He visited the Paris Exposition in 1889 as the representative of the executive committee of the citizens of Chicago, and was chairman of the grounds and buildings committee of the Columbian Exposition at Chicago until 1891. He was president of the Denver and Rio Grande Railroad Company in 1891-1912, its general manager in 1891-1900 and in 1912 became chairman of its board of directors. He was receiver for the Rio Grande Southern Railroad Company in 1893-1895, and then became its president. He was also president of the New Orleans and Northwestern Railroad, and was connected as director, chairman or vice president with various other railroads and trust companies.

JEFFERY, Walter J., Australian journalist and author: b. Portsmouth, England, Aug. 20, 1861; d. Feb. 14, 1922. After having been a sailor for 10 years he settled in Sydney in 1886, where he entered newspaper work and became eventually, successively, sub-manager of the *Evening News*, *Town and Country Journal* and *Woman's Budget*, and editor of the *Evening News*. Among his published works are *A Century of Our Sea Story* (London 1900); *The King's Yard*; *History of Australia*; and *English Naval History*. He collaborated with George Lewis Beck in *A First Fleet Family*; *Naval Pioneers of Australia*; *The Mutineers*; *Admiral Phillip*; *The Tapu of Bunderah*; and *The Mystery of Laughlin Isles*.

JEFFERYS, Charles William, Canadian artist: b. Rochester, England, 1869. He came to Canada in early life, received his art education in Toronto and New York, and engaged in black and white illustration in the latter city for some years. His pictures of pioneer life are very effective.

JEFFREY, Edward Charles, American botanist: b. St. Catharines, Ontario, Canada, May 21, 1866. He was graduated at the University of Toronto in 1888 and took his Ph.D. at Harvard in 1898. He was fellow in biology at the University of Toronto in 1889-1902, and

lecturer in that subject in 1892-1902. He was appointed assistant professor in plant morphology at Harvard in 1902, retiring as professor emeritus in 1933.

JEFFREY, Francis (Lord Jeffrey), Scottish judge and critic: b. Edinburgh, Oct. 23, 1773; d. Craigbrook Castle, near Edinburgh, Jan. 26, 1850. He was educated at the University of Glasgow and Queen's College, Oxford, and was admitted to the Scottish bar in 1794. He assisted in establishing the *Edinburgh Review* in 1802 with Sydney Smith, Henry Peter Broughan (Baron Broughan), and others, and after two numbers had been issued became its editor, a position which he held till July 1829. He showed great talents as an editor, and, although many of his literary judgments have been reversed by posterity, was accounted the greatest critic of his time. In 1831 he was made lord-advocate, and sat for several years as member of Parliament for Edinburgh. He was made a lord of session in 1834, and continued during a period of 16 years to be one of the ablest and most popular judges of the Supreme Court in Scotland.

JEFFREYS, George (1st Baron Jeffreys of Wem), English judge: b. Acton Park, near Wrexham, Wales, 1648; d. London, April 8, 1689. He was called to the bar in 1668, and soon after was chosen recorder of London. He was appointed chief justice of Chester, created a baronet in 1680 and became chief justice of King's Bench in 1682. He was one of the advisers and promoters of the arbitrary measures of James II; and for his sanguinary and inhuman proceedings against the adherents of Monmouth on the famous "Bloody Assize," was rewarded with the post of lord high chancellor (1685). After the abdication of King James, the chancellor, who had disguised himself as a seaman, was detected by a mob and carried before the lord mayor, who sent him to the lords in council, by whom he was committed to the Tower, where he died.

JEFFRIES, John, American physician: b. Boston, Mass., Feb. 5, 1744; d. there, Sept. 16, 1819. He was graduated at Harvard in 1763, studied medicine at London and Aberdeen, and returning to Boston in 1769 he entered upon a lucrative practice, which continued until the evacuation of the town by the British troops, whom he accompanied to Halifax. After serving as surgeon-general of the troops in Halifax, he was appointed in 1779 surgeon major of the forces in America. In the succeeding year he established himself in London in the practice of his profession, but also occupied himself much with scientific studies, and in the prosecution of his experiments in atmospheric temperature undertook, Jan. 7, 1785, a remarkable voyage in a balloon from Dover cliffs across the British Channel, landing in the forest of Guinnes in France. This was the first successful attempt at aerostation on an extended scale, and Jeffries in consequence received many attentions from the learned societies of Paris. In 1789 he returned to Boston, where he practiced his profession until the close of his life. He announced a course of lectures on anatomy in Boston in 1789, but so great was the prejudice against the practice of dissecting that on the evening of the second lecture a mob broke

into his anatomical room. The course thus interrupted was never resumed, and the single lecture delivered by Jeffries is said to have been the first public one on anatomy given in New England.

JEHOASH, king of Judah. See **JOASH**.

JEHOASH, pseudonym of **SOLOMON BLOOM-GARDEN**, Yiddish poet: b. Verzhbolovo, government of Suwalki, Russian Poland, April 1870; d. 1927. He came to the United States in 1890, and in 1900 he became a regular contributor to *Die Zukunft*. He had written verse from an early age and created a favorable impression with his first volume, published in America in 1907. Other volumes followed, and prior to his visit to Palestine in 1914 a collected edition of his works, including a volume of fables, was brought out in seven volumes. He edited with C. D. Spivak *The Dictionary of Hebrew Elements in Yiddish* (1911); and is author of *From New York to Rehoboth and Back* (3 vols., 1917-1918). Before his death in 1927 he translated the Old Testament into Yiddish.

JEHOIAKIM, the 18th king of Judah, was the second son of Josiah. His name was originally Eliakim. His later name was given him by the Egyptians who placed him on the throne, after deposing his brother Jehoahaz. He encouraged all the abominations and strange worship abolished by his father. He was a man of blood and oppression and reigned 11 years. The Babylonians invaded the country, and Jehoia-kim was taken in chains to Babylon, and with him the prophet Daniel. Jehoia-kim was reinstated; but when, contrary to the advice of Jeremiah, he rebelled against Babylon, the Babylonians promoted an invasion of Judah by neighboring tribes. Jehoia-kim died during the siege of Jerusalem, before Nebuchadnezzar arrived, and his body was thrown down in front of the walls.

JEHOL, jê-hôl'; Chin. rô'hô, province of China, in southwest Manchuria, just north of the Great Wall. Bounded by Hopeh in the south, by Chahar in the west, and by Liaoning in the northeast, it is the gateway from China proper to Manchuria. The area is 69,491 square miles. Its name is derived from Je Ho, "Hot River," a small stream flowing east of Chengteh, the capital. The topography is mostly rugged. The north, sparsely populated, is watered by the Liao River, the south by the Lwan. Rainfall is scanty. The most fertile areas are along the rivers where wheat, barley, corn, and beans are grown. Pehpiao, near the eastern border, is the center of a rich coal-mining area; iron and gold are also found. Two railroads cross the province and there is a fair network of roads. Chihfeng, in the center of the province, is the largest city. From 1933 to 1945 Jehol was a province of the Japanese puppet state of Manchukuo. After Japan's surrender in 1945 the Chinese Communists and Nationalists fought over the region. Its present boundaries were set in 1949, by the Chinese People's Republic. Pop. (1947, official est.) 6,109,866.

JEHOL, city, China. See **CHENGTEH**.

JEHORAM, or **JORAM**, the name of five Bible characters. Only two are of special importance. Jehoram, king of Israel, was the

second son of Ahab and Jezebel and succeeded his brother Ahaziah, becoming the 10th king after the division of the kingdom. He reigned 12 years. Three wars occurred in his reign. Moab revolted. Jehoram with the aid of Jehoshaphat, king of Judah, and the king of Edom defeated Mesa, the king of Moab, overran the land and destroyed its cities. Later followed two wars with Syria. In the first the Syrian armies were led by Ben Hadad, and in the second by Hazael, newly anointed king by Elisha. Jehoram lost his throne and his life in the revolt of Jehu. Jehu himself shot the fatal arrow, and Jehoram fell on the very piece of ground which Ahab seized from Naboth, the Jezreelite, and thus fulfilled minutely the prophecy of Elisha. **JEHORAM** was also the name of the 5th king of Judah, who succeeded his father Jehoshaphat on the throne and reigned eight years. He married the daughter of Ahab and Jezebel, the noted Athaliah. He put his six brothers to death and became an idolater. The Edomites revolted from him and became independent. His kingdom was repeatedly invaded by the Philistines on the west and by the Arabians and Cushites on the east. His last days were filled with suffering as he was subject to a form of malignant dysentery of a most severe type. Because of his wickedness he was refused a place of burial among the kings. Elijah had admonished him from time to time without avail.

JEHOSHAPHAT, 4th king of Judah after the revolt of the 10 tribes. He was characterized as a good king. He brought about cooperative relations with the kingdom of Israel. The marriage of his son Jehoram to Athaliah was intended to cement amicable relations with the other kingdom, but final results were disastrous for the royal line. The king tried to restore the maritime commerce of King Solomon, but his fleet was wrecked on its first voyage. His alliance with Ahab was not a great success and only brought him into difficulty. His campaign, when joining with Jehoram of Israel and the king of Edom, his vassal, against Moab, was very successful. He received tribute from the Philistines and Arabians. His internal management of the kingdom was admirable. At one time he sent forth a commission to teach "the book of the law of the Lord" in the cities of Judah. He established local judges in every fenced city and a double court of appeals, ecclesiastical and civil at Jerusalem. His reign was the most prosperous reign enjoyed by the kingdom of Judah. After reigning 25 years he died at the age of 60, and was succeeded by his son Jehoram (q.v.).

JEHOVAH, an erroneous pronunciation of the name of the God of Israel in the Bible, due to pronouncing the vowels of the term "Adonay," the marginal Masoretic reading, with the consonants of the text-reading "Yahweh," which was not uttered to avoid the profanation of the divine name for magical or other blasphemous purposes. Hence the substitution of "Adonay," the "Lord," or "Adonay Elohim," "Lord God." The oldest Greek versions use the term "Kurios," "Lord," the exact translation of the current Jewish substitute for the original Tetragrammaton, Yahweh. The reading "Jehovah" can be traced to the early Middle Ages and until lately was said to have been invented

by Peter Gallatin (1518), confessor of Pope Leo X. Recent writers, however, trace it to an earlier date; it is found in Raymond Martin's *Pugeo Fidei* (1270).

Of the various names of God found in the Old Testament, Jehovah (more accurately Yaweh) occurs the most frequently. The use of Jehovah by some Biblical writers and Elohim by others has given rise to the Jehovist and Elohist as terms to designate documentary sources. In a vision at Horeb (Exodus 3), Moses learned the name "Jehovah" or "Yahweh" as God's name, but there is some evidence that it existed in pre-Mosaic times; it occurred in proper names, such as that of Moses' mother, Jochebed (Exodus 6:20). In Exodus 6:2, 3, it is said the name was not known to the patriarchs. The writer of Job, who lays the scene of his book in patriarchal times, speaks of Jehovah or Yahweh only once (Job 12:9), and makes his characters use the term "Shaddai." Yahweh, Jehovah, is not employed in Ecclesiastes, and in Daniel is found only in chapter 9. In many of the Psalms, Elohim occurs much more frequently than Yahweh. To avoid repetition of this name, when the name "Adonai" preceded, Yahweh is written in the Masoretic text with the vowels of Elohim and is read Elohim instead of Yahweh. Throughout the New Testament it is rendered Lord, as in the Septuagint.

There has been much speculation as to the origin and meaning of the term. Attempts to connect it with any Indo-European deity or to trace it to Egypt or China, or efforts to identify it with other Semitic divinities have not been successful. Exact scholarship is wanting and sources are meager. It might be derived from a root meaning "to fall" or "to be," or "to blow" or "to breathe;" or it might derive from the causative "to make to be"—he who causes to be, that is, the Creator. From Moses' time on it had the meaning "He who is wont to be" or "He who will be." Thus in Exodus 3:13, 14, in answer to the question "What is his name?" the reply is given "I am that I am." Here the idea of God as active and self-manifesting Existence is conveyed—a meaning almost the same as that of the Father who "hath life in himself" of John 5:26. Some modern scholars translate it "the Eternal." In post-Mosaic times Jehovah (that is, Yahweh or Jahweh) became the common name for God, especially in a personal sense.

JEHOVAH'S WITNESSES. A Christian religious group, taking its designation from Isaiah 43:10 (American Standard Version of the Bible): "Ye are my witnesses, saith Jehovah." They maintain the doctrine that Jehovah is Almighty God; Christ is king of the promised new world; this king is now enthroned in heaven and soon will destroy wickedness in the earth by fighting Armageddon; and that only those who heed the warning now given and obey Jehovah will survive to live forever on earth in the new world. They preach this doctrine from house to house.

During 1955 more than 642,000 of these ministers preached in 158 lands. They are organized into 16,044 congregations that meet several times weekly to study and train for the ministerial work. During 1955 they spent more than 85,000,000 hours preaching, placed more than 30,000,000 Bibles and study books, distributed over 85,000,000 copies of their publications *The Watchtower* (in 41 languages) and *Awake!* (in 14 languages), and conducted more than 337,000 weekly Bible studies in

the homes of interested persons. Since 1920 they have distributed more than 643,000,000 books and booklets in over 100 languages and dialects, not including magazines.

In 1955 they held a series of international assemblies in 13 major cities of the world. Forty-five hundred delegates from the United States and Canada were sent to Europe to swell the total attendance to 403,682. International assemblies, held in different countries, are regular features of their activity and attract widespread publicity.

While Jehovah's Witnesses consider that their denominational existence dates from the time of Adam's son Abel, their modern organization, founded by Charles Taze Russell, began in the 1870s, and they were originally called Russellites. Their legal agency, the Watch Tower Bible and Tract Society, was incorporated in 1884. Their officers are N. H. Knorr, president (1942); F. W. Franz, vice president; G. Suiter, secretary-treasurer. Headquarters are located at 124 Columbia Heights, Brooklyn 1, New York. Branch offices operate in 78 countries to expedite the systematic, worldwide preaching work.

JEHOVIST, jê-hô'vist, sometimes called JAHWIST or YAHWIST, a hypothetical author of the Pentateuch (the first five books of the Bible), who used the word Jehovah or Yahweh as the name of God instead of Elohim, a term also used in many passages of the Old Testament. The writer who employed the latter designation is called Elohist. Most modern Biblical critics regard the Pentateuch as a compilation from two original records, one made by a Jehovist, the other by an Elohist. The Jehovist history is supposed to be the older of the two (by some critics it is dated 950 B.C.), and to have been an account of Jehovah's dealings with the Israelites up to the conquest of Palestine west of Jordan. It is a religious history of the attainment of the Promised Land. This history emphasized the supremacy of Jehovah as the one God, creator of the world, and the national God and Father of the chosen people, in whose affairs He interposed as He appeared to their early forefathers in the shape of a man or an angel.

In the Elohist record, which is supposed to cover the same period and to have been written about 700 B.C., a more modern interpretation of history is attempted. The anthropomorphic suggestions of deity are softened; Elohim interposes merely by a voice, speaking to his people in words of encouragement or rebuke. Through the narrative of the hypothetical Elohist there runs a tone of sadness, with anticipations of coming disaster and disappointment.

The Yahwistic or Jehovistic editor who combined these two histories is supposed to have lived in the 7th century B.C., while in the 4th century B.C. a third post-exilic writer added to these combined elements the legal codes which swelled the Pentateuch into the Hexateuch. See also ELOHIM; ELOHIST; PENTATEUCH; TETRAGRAMMATON.

JEHU, jê'hû, an Old Testament prophet active in Israel in the reign of Jehoshaphat (c.873-849 B.C.). He is mentioned in I Kings 16:1, 7, 12, and in II Chronicles 19:2 and 20:34.

JEHU, 10th king of Israel: d. 816 B.C. He founded the 5th dynasty and ruled in Israel, the Northern Kingdom, from about 843 to 816 B.C.

A captain in the army under Ahab, he was later general under Ahab's son, King Jehoram (Joram). At the battle of Ramoth Gilead, against the Assyrians, Jehoram was wounded and went to Jezreel to recuperate. The prophet Elisha saw this as an opportune moment to make Jehu king and lay upon him the task of ridding the country of the idolatry which had grown up during the reign of Ahab. He therefore sent one of his disciples to the camp at Ramoth Gilead to secretly anoint Jehu as king of Israel (II Kings 9). After his secret anointing as king, Jehu drove in his chariot to Jezreel, with a number of his men, killed Jehoram and the queen mother Jezebel, and wiped out the entire house of Ahab and all the priests of Baal and their followers. He also seized the throne of Judah, the Southern Kingdom, by killing King Ahaziah and his family. Jehu's reign was troubled by war with the Assyrians in which he lost the territory east of the Jordan. He was obliged to pay tribute to Shalmanezar III. This incident is depicted on the black obelisk discovered at Nineveh and now in the British Museum.

JEHU, a colloquial and humorously satirical name for a coachman; also for any reckless driver. It derives from the Biblical description of King Jehu's driving (II Kings 9:20): "The driving is like the driving of Jehu the son of Nimshi; for he driveth furiously."

JEJUNUM. See **INTESTINE**.

JELACIC OD BUZIMA, yě'lā-chēt-y' ōd bōō'zhē-mā, **COUNT Josip** (English, **COUNT JOSEPH JELLACHIC**), Croatian soldier and governor: b. Petrovaradin, Slavonia, Oct. 16, 1801; d. Zagreb, Croatia, May 19, 1859. He became an officer in the Austrian Army. In March 1848 he was made ban (governor) of Croatia. With the object of separating Croatia from Hungary and uniting it to Austria, he led his troops against the Magyars in the revolutionary outbreak of 1848, but did not succeed in gaining his objective. Jelačić continued as governor of Croatia, and was made a count in 1855.

JELENIA GORA, yě-lě'nyā gōō'rā (Ger. **HIRSCHBERG**; **HIRSCHBERG IN SCHLESSEN**; or **HIRSCHBERG IM RIESENBERG**), city, Poland, in Wrocław Province, on the Bobrava River, 60 miles west-southwest of Wrocław (Breslau). A railway junction and tourist center, its chief industries are textile and paper milling, wood-pulp processing, and manufactures of machinery, optical glass, castings, chemicals, pharmaceuticals, and tiles. Formerly in Silesia, Germany, it was assigned to Poland by the Potsdam Conference in 1945. Pop. (1946) 39,050.

JELlicoe, jěll'ī-kō, **John Rushworth**, 1st **EARL JELlicoe**, British admiral: b. Southampton, England, Dec. 5, 1859; d. London, Nov. 20, 1935. His father was Capt. J. H. Jellicoe of the Royal Mail Steam Packet Company; his great-grandfather was Admiral Philip Patton, second sea lord in the Trafalgar campaign. Jellicoe entered the navy in 1872 and served as lieutenant during the Egyptian war, 1882. About that time he began to concentrate his attention on naval gunnery and came under the influence of the progressive Capt. John Arbuthnot Fisher (later Lord Fisher), commandant of the gunnery school. In 1889 Fisher, as director of naval ordnance, made

Jellicoe his assistant at the Admiralty. Promoted commander in 1891, he was appointed in 1893 to Admiral Sir George Tryon's flagship the *Victoria* and was on that vessel when she was rammed and sunk by the *Camperdown* in the Mediterranean. He served as chief of staff to Admiral Sir Edward Hobart Seymour in China in 1898-1901, and at the time of the Boxer rising (1900) was severely wounded. After a period at the Admiralty as naval assistant to the controller of the navy, he commanded the cruiser *Drake*, and in 1905 became director of naval ordnance. He was rear admiral of the Atlantic Fleet, 1907-1908; third sea lord, 1908-1910; vice admiral commanding the Atlantic Fleet, 1910, and the Second Division of the Home Fleet, 1911-1912; and second sea lord, 1912-1914.

On the outbreak of World War I, Jellicoe was placed in command of the Grand Fleet, and hoisted his flag on the *Iron Duke* on Aug. 4, 1914, the day Great Britain entered the war. He was promoted admiral in 1915. He directed the North Sea blockade of Germany and the operations of the fleet in the Battle of Jutland. In December 1916 he was succeeded by Admiral David Beatty, and was appointed first sea lord in place of Admiral Sir Henry Jackson. In January 1918 he was raised to the peerage as Viscount Jellicoe of Scapa, and in 1919 he was promoted admiral of the fleet. He served as governor general of New Zealand (1920-1924), and in 1927 was New Zealand delegate to the Geneva Arms Conference. In June 1925 he was made Earl Jellicoe. See also **WAR, EUROPEAN—Naval Operations: Resources and Problems; The Battle of Jutland**.

Consult Bacon, Sir Reginald Hugh Spencer, *Life of John Rushworth, Earl Jellicoe* (London 1936); Altham, Edward, *Jellicoe*, Order of Merit Series (Glasgow 1938).

JELLIFFE, jěll'if, **Smith Ely**, American neurologist and psychiatrist: b. Brooklyn, N. Y., Oct. 27, 1866; d. Huletts Landing, N. Y., Sept. 25, 1945. After graduating from Brooklyn Polytechnic Institute in 1886, he took his degree in medicine at Columbia University in 1889, and the Ph.D. degree in 1900. He did extensive post-graduate study in Europe. He was instructor in materia medica and therapeutics and professor of pharmacognosy and technical microscopy at Columbia (1897-1907); professor of psychiatry at Fordham University, New York City (1907-1912); and (1911-1917) adjunct professor of diseases of the mind and nervous system in the Post Graduate Hospital and Medical School, New York. A pioneer in psychoanalysis in the United States, he was opposed to imprisonment of the criminally insane, favoring hospitalization instead. Some of his earlier published works included a study of the flora of Long Island, his Ph.D. thesis; also textbooks on botany, medical chemistry, and pharmacognosy. He revised G. F. Butler's *Materia Medica* in 1902, and translated and edited a number of works on paranoia and other neurological subjects from the French, German, and Italian. From 1900 to 1905 he was editor of the *Medical News*, New York, and from 1905 to 1907 was associate editor of the *New York Medical Journal*. In 1913, with Dr. W. A. White, he published *Modern Treatment of Nervous and Mental Disease*, and in 1915 the textbook *Diseases of the Nervous System*. In 1907 they had founded the *Nervous and Mental Disease Monograph Series*, (22 volumes), and in 1913 they founded the *Psychoanalytic Review* devoted to furthering a more scientific understanding of human conduct.

He was editor of the *Medical News* (1900-1905); associate editor of the *New York Medical Journal* (1905-1909); managing editor of the *Journal of Nervous and Mental Diseases* (1902-1945) and of the *Psychoanalytic Review* (1913-1945). He contributed many articles to the *ENCYCLOPEDIA AMERICANA*. Dr. Jelliffe was active in practice, limiting his medical work to diseases of the nervous system. Reference has been made to his more important publications in this branch of medicine.

JELLY includes every translucent juice so far thickened as to coagulate when cold into a trembling mass; as the juices of acid or mucilaginous fruits, currants, etc., which, by the addition of one part of sugar to two parts of juice, and, by boiling, have obtained a proper consistence.

1. Animal Jelly.—The soft parts, such as the muscles, skin, cartilage or integuments of animals, when boiled in water, yield a solution which on cooling solidifies to a tremulous jelly. Seventy pounds of bones, when treated with one pound of water in the form of steam, at a pressure of four pounds to the square inch and simultaneously digested in five gallons of water, will yield about 20 gallons of a strong jelly.

Animal jelly seems to be nearly identical in composition with the tissues which yield it, so that we are unable to trace any chemical change, except, perhaps, the assimilation of water during the process of its manufacture. The following analysis shows the average percentage of carbon, hydrogen and nitrogen in animal jelly:

	Carbon	Hydrogen	Nitrogen
1)	49.0	7.0	19.4
2)	50.0	6.5	17.5

2. Vegetable Jelly.—When the juice of fruits is heated with sugar, the liquid forms a stiff jelly on cooling. It appears from the researches of Frémy and others that unripe fruits contain a compound of carbon, hydrogen and oxygen called *pectose*; as the fruit ripens, this substance is transformed into *pectin*, the change being brought about chiefly by the influence of a peculiar ferment called *pectase*, which is contained in the fruits. As pectin is soluble in water, the expressed juice of ripe fruits contains a large quantity of this substance, which on heating to a temperature of about 105° F. is converted into one or more substances which have not as yet been completely studied, but which have the property of gelatinizing on cooling. The principal of these substances are *pectonic* and *metapectic* acids. This latter acid, when boiled along with another strong acid, whether mineral or organic, is decomposed, one of the products being pectin sugar, a substance which is closely allied to glucose, so that in all probability there is produced in the very process of manufacturing jellies more or less of this sugar, which certainly is not cane-sugar, and which might, therefore, be by some regarded as an adulteration. The processes which, in the living plant, result in the transformation of pectose into pectin may be imitated on a small scale by heating the juice of unripe fruit with the pulp, which contains the ferment pectase, or with a dilute acid which induces the same change as this substance. Alkalis also produce a similar effect.

JELLYFISH, the medusa-stage of *Hydrozoa* (q.v.), but more especially the common name of *Scyphozoa* (formerly *Discomedusa*), the second class of the phylum *Celenterata* (q.v.). A familiar example is the common large jellyfish of the coast of New England, *Aurelia flavidula*. It sometimes reaches the diameter of 10 inches; its umbrella-shaped body is convex and smooth above, and from the under sides hang down four thick oral lobes which unite to form a square mouth-opening also giving off four tentacles. The margin of the umbrella or disc is fringed and bears eight eyes which are covered by a lobe. Just under the surface are seen the water-vascular canals, branching out from four primary canals radiating from the stomach. When in motion, the disc contracts and expands rhythmically, on the average from 12 to 15 times a minute.

The *Aurelia* spawns late in the summer, the females having yellowish ovaries, while the sperm glands of the males are roseate in hue. The eggs are fertilized in the sea and the ciliated pear-shaped larva by October sinks to the bottom, attaching itself to rocks or shells, finally assuming a hydra-like shape, with often as many as 24 long slender tentacles. This is the *Scyphistoma* stage in which it remains about 18 months. From this it passes into the *Strobila* stage in which the body divides into a series of cup-shaped discs, each of which is scalloped on the upturned edge. These discs separate one after the other in March and swim away as miniature jellyfishes called *Ephyra*. The *Ephyra* is at first about a fifth of an inch in diameter, and becomes a fully formed *Aurelia* in April, reaching maturity in August. Another but less common jellyfish on the coast of New England and in the north Atlantic is the great *Cyanea arctica*, or "blue jelly," which is nearly two feet in diameter, sometimes from three to five, and with very long string-like tentacles, sometimes extending from 20 to 100 feet, which are filled with stinging or lasso-cells (*trichocysts*), so that the animal is poisonous to fishermen and bathers. While these forms undergo a metamorphosis, in fact, an alternation of generation, other kinds, as *Pelagia*, etc., are known to develop directly from the egg, and even the *aurelia* under exceptional circumstances does not pass through the *scyphistoma* stage. The jellyfishes are divided into a number of groups. They are most numerous in the tropical seas, comprising forms of great beauty. Consult Agassiz and Mayer, 'Acalephs from the Fiji Islands' (in *Bulletin of the Museum of Comparative Zoology*, Vol. XXXII, Cambridge 1899); Romanes, C. J., 'Jellyfish, Starfish and Sea Urchins' (New York 1885); Packard, 'Zoology' (1897); Arnold, 'The Sea Beach at Ebb-tide' (1902); Mayer, A. G., 'The Medusae of the World' (Washington 1911).

JELUTONG (Malay), an inferior kind of rubber prepared from a large variety of rubber trees that grow wild in the swamps of Borneo.

JEMAPPES, zhě-map', Belgium, city in the province of Hainault, five miles southwest of Mons, on the river Haine. It was here that the French under Dumouriez won a decisive victory over the Austrians under the Duke of Saxe-Teschén, 6 Nov. 1792. It was the first victory won by the French Republic and was followed by the occupation of Belgium.

Occupied by the Germans in World War I, it was one of the last towns to be liberated before the armistice of 1918. The town has glass and porcelain factories, and there are iron mines nearby. Pop. (1946) 12,467.

JENA, yā'nā, Germany, town, 12 miles east of Weimar, on the left bank of the Saale. It consists of the town proper and of four suburbs. It contains a famous university which was opened in 1558 and attained its highest prosperity toward the end of the 18th century, when it numbered Schiller, Humboldt, Fichte, Schelling, and Griesbach among its teachers and was attended by above 1,000 students; Arndt and Hegel later were professors here. In 1844 the number of students had dwindled to 411, but in the period before World War II the student body averaged over 2,500. It possesses an anatomical theater, botanical garden, observatory, good physical and chemical laboratories and an excellent library. Jena is famous as a center of the glass industry and for lens and optical manufactures. Pop. (1939) 72,323.

JENATSCH, yā'nātsch, **Georg**, or **Jürg**, Swiss political leader and soldier: b. Samaden, 1596; d. Coire, Jan. 24, 1639. He was educated at Zürich and Basel and became pastor of the Protestant church at Scharans, near Thusis, in 1617. He entered politics, espousing the cause of the Venetian and Protestant Salis family against that of the Spanish and Romanist family of Planta. He was the leader of the body which in 1618 put to death by torture the arch-priest, Rusca of Sondrio, and outlawed the Plantas. In 1621 he was one of the murderers of Pompey Planta, head of the opposition, and was forced thereafter to flee the country, abandoning his pastorate and becoming a soldier in the service of the French. The peace of 1626 between France and Spain left the Romanists in control and destroyed Jenatsch's hope of return to power. After killing his colonel in a duel he again fled from his native land, and joining the forces of the French he ably supported the Duke de Rohan in expelling the Spaniards from the Valtellina in 1635. Upon the failure of the French to restore the Protestant Grisons ascendancy he returned Romanist and joined the Spaniards in the plot that caused Rohan's downfall. Failing to secure ascendancy for the Grisons in the Valtellina, he again appealed to the French for support, but was assassinated by a Planta partisan. His career is interwoven with the long contest of France and Spain for the Valtellina during the Thirty Years' War.

JENCKES, or **JENKS**, **Joseph**, American inventor, grandfather of Joseph Jenckes, governor of Rhode Island (q.v.): b. Colbrooke, England, 1602; d. Lynn, Mass., March 16, 1683. He came to America about 1645 and settled at Lynn, where he established the first iron and brass foundry on the Western continent, and manufactured the first domestic utensils, machinery and tools produced here. He was granted a patent "for the making of engines of mills go by water" by the legislature May 6, 1646, and also received patents for a sawmill. He executed the dies for the Massachusetts coinage of 1652, including the famous "pine-tree shilling." In 1654 he is recorded as making a contract with the selectmen of Boston for "an

engine to carry water in case of fire," the first to be made in America. In 1655 he received a long-delayed patent for an improved grass-scythe which was vastly superior to any scythe then made and which has been adopted practically throughout the world without material change.

JENCKES, jēnks, or **JENKS**, **Joseph**, colonial governor of Rhode Island: b. Pawtucket, 1656; d. June 15, 1740. He was a land-surveyor and was commissioner of the Rhode Island colony in settling boundary disputes with Massachusetts and Connecticut, and was afterward employed by Massachusetts in similar troubles with New Hampshire and Maine. He served in various official capacities in the colony, was member of assembly in 1700-1708 and deputy governor in 1715-1727. He went to England in 1721 to lay the boundary disputes before the king; and in 1727-1732 he was governor of the colony, refusing re-election. His grandfather Joseph Jenckes (q.v.) was the noted inventor and scythe manufacturer, and his father, of the same name, founded Pawtucket.

JENCKES, **Thomas Allen**, American legislator, "Father of Civil Service Reform": b. Cumberland, R. I., Nov. 2, 1818; d. there, Nov. 4, 1875. A graduate of Brown University in 1838, he was admitted to the bar in 1840 and practised at Providence. The United States government retained him in suits against the Crédit Mobilier. He was secretary of the landholders' convention (1841), of the state constitutional convention (1842), and of the governor's council on its establishment. Elected to the state legislature in 1845, he was one of the commission appointed to revise state laws in 1855. From 1862 to 1871 he was a representative in Congress where he obtained enactment of the Bankrupt Law of 1867 and revisions of patent and copyright laws. His strenuous efforts on behalf of civil service reform continued after his congressional tenure, during which he had obtained passage of the bill making entrance to West Point dependent on competitive examinations.

JENIFER, **Daniel of St. Thomas**, American public official and signer of the Constitution: b. Charles County, Md., 1723; d. Annapolis, Md., Nov. 16, 1790. Inheriting a considerable fortune, Daniel of St. Thomas Jenifer lived at Stepney, his large estate in Charles County. He served as agent and receiver-general for Maryland's last two proprietors, held many public offices, and in his younger days was a justice of the peace of his county and later a judge of the province's western circuit. In 1760 he was one of the commission to settle boundary disputes with Pennsylvania and Delaware, and in 1766 was a member of the provincial court. He sat on the governor's council from 1773 to the outbreak of the Revolution. At first inclined to conciliation with England, he strongly supported the Revolutionary cause from the time of his election in 1775 as president of Maryland's Council of Safety. On establishment of the state government in 1777, Jenifer was appointed president of the Senate. The following year he was elected to the Continental Congress, serving until 1782. Subsequently for several years he was intendant of the Maryland revenues and

financial agent of the state. He was also one of his state's commissioners who conferred with Virginia commissioners in 1785 to agree on navigation rights in the border waters of Chesapeake Bay and the Potomac River. A delegate to the Constitutional Convention of 1787, he played a rather unimportant part in framing the Constitution which he signed for his state with James McHenry and Daniel Carroll. Judge Jenifer never married. He kept open house at Stepney and exchanged visits with Washington who seems to have had a partiality for him.

JENKIN, jěng'kin, (Henry Charles) Fleming, English engineer: b. near Dungeness, March 25, 1833; d. Edinburgh, June 12, 1885. He took his M.A. at the University of Genoa in 1850 and in 1851 began his career as an engineer at Manchester. In 1859 he became associated with Sir William Thomson, afterward Lord Kelvin, in experiments on the resistance and insulation of electric cables, and his researches on the resistance of gutta-percha were recognized as of great importance. He was elected a Fellow of the Royal Society in 1865 and appointed professor of engineering at University College, London. From 1868 until his death he was professor of engineering at Edinburgh University; and from 1882 was engaged in developing his invention of telferage, an automatic electric system for transporting goods in cars hung from overhead cables. He was author of *Magnetism and Electricity* (1873).

JENKINS, jěng'kinz, Charles Francis, American inventor: b. near Dayton, Ohio, Aug. 22, 1867; d. Washington, D.C., June 6, 1934. He studied at Earlham College and Johns Hopkins University, invented a motion picture projector having an intermittent movement (patented 1895), an altimeter, automobile self-starter, braking device for airplanes, the conical paper drinking cup, and devices in radiophotography, radio-movies, and television. He published *Vision by Radio*, *Radio Photographs*, *Radio Photograms* (1925); *Visual Radio and Television* (1928); *Boyhood of an Inventor* (1931).

JENKINS, Charles Jones, American jurist and statesman: b. Beaufort County, S. C., Jan. 6, 1805; d. Summerville, Ga., June 14, 1883. He was graduated from Union College, Schenectady, N. Y., in 1824, and after the study of law began practice in Augusta, Ga. He was a member of the Georgia legislature in 1830 and after a short service as attorney general of the state was a member of the legislature 1836-1850, and a leader of his party there. He was state senator 1856-1860, and was a judge of the Georgia Supreme Court 1860-1865. He became governor of his state in 1865, but was removed from office by Gen. G. G. Meade on Jan. 3, 1868, because of failure to pay for the reconstruction convention. He presided over the Constitutional Convention of 1877.

JENKINS, Herbert, British author and publisher: b. Norwich, 1876; d. London, June 8, 1923. He was educated at Greyfriars College, and in association with Sir George Hayter founded the publishing house of Herbert Jenkins Ltd. He created the fictional character Bindle in his books *Bindle* (1916), *Adventures of Bindle* (1918), and *Mrs. Bindle* (1921).

JENKINS, John Edward, English political and social writer: b. Bangalore, India, July 28, 1838; d. London, June 4, 1910. He was educated at McGill University, Canada, and the University of Pennsylvania, went to London and was called to the bar in 1864. He was agent-general for Canada in London, 1874-1876, and sat in Parliament for Dundee, 1874-1880. He became famous by the publication of his *China's Baby* (1870), a clever satire aimed at the struggles of rival sectarians to secure control of the religious education of a derelict child.

JENKINS, Sir Lawrence Hugh, British jurist in India: b. Cardigan, Wales, Dec. 22, 1857; d. Ealing, Oct. 21, 1928. He was educated at Cheltenham and Oxford University, and in 1883 was called to the bar. He became judge of Calcutta High Court in 1896, and from 1899 to 1908 he served as chief justice of the Court of Judicature, Bombay. After a year as a member of the Council of India, he was chief justice of the High Court of Bengal until 1915, when he retired. In 1916 he was appointed to the Judicial Committee of the Privy Council, and in 1924 was made a member of the board formed to determine the boundary between Northern Ireland and the Irish Free State.

JENKINS, Thornton Alexander, American naval commander: b. Orange County, Va., Dec. 11, 1811; d. Washington, Aug. 9, 1893. Entering the United States navy as a midshipman in 1828, he served therein during the war with Mexico. He was appointed to investigate European lighthouse systems and framed the law passed in 1852. He saw active service during the Civil War and was chief of the Bureau of Navigation 1865-1869. From 1869 to 1871 he was naval secretary of the lighthouse board and commanded the East India squadron 1871-1873. In 1870 he was appointed rear admiral and retired in 1873.

JENKINS, town, Kentucky, in Letcher County; altitude 1,527 feet; 28 miles southwest of Shelby; on the Sandy Valley and Elkhorn branch of the Chesapeake and Ohio Railroad. It was founded in 1911 by the Consolidation Coal Company for operatives in the coal mines of the district. About three miles south of the town is historic Pound Gap pass on the Virginia border. Pop. (1950) 6,921.

JENKINS' EAR, War of, popular name for the war between England and Spain, 1739-1743. Robert Jenkins, an English master mariner, was on a return voyage from the West Indies in 1731 when his brig, the *Rebecca*, was boarded by a Spanish guardacosta, whose commander cut off one of his ears and committed other outrages. The story at first attracted little attention, but repeated by Jenkins before the House of Commons in 1738, it became a contributing cause to the outbreak of war.

JENKINS FERRY, Arkansas, Battle of, took place April 30, 1864, when the Confederates under Gen. Sterling Price and Gen. E. K. Smith were repulsed from attacking Gen. Frederick Steele at the Saline River.

Consult *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*, Vol. 34 (Washington 1889-1901).

JENKINTOWN, borough, Pennsylvania, in Montgomery County, 10 miles north of Philadelphia; on the Reading Railway. Jenkintown is a residential suburb of Philadelphia. Beaver College for Women (1853) is there. Pop. (1950) 5,130.

JENKS, jěngks, **Albert Ernest**, American anthropologist: b. Ionia, Mich., Nov. 28, 1869. He has done research in Africa and Europe (1914, 1930), in New Mexico (1928-1931), and made several studies of the American Indian (1915, 1932-1938). He was professor of anthropology at the University of Minnesota from 1907 until his retirement as professor emeritus in 1938.

JENKS, **Edward**, English publicist: b. Stockwell, Feb. 20, 1861; d. Bishop's Tawton, Nov. 10, 1939. He was educated at Dulwich College and Cambridge University; was dean of the law faculty in Melbourne University, 1889-1892; professor of law in University College, Liverpool, 1892-1896; reader in English law at Oxford, 1896-1903; principal and director of the studies of the Law Society, 1903-1924; professor of English law, University of London, 1924, and dean of the faculty of laws, 1927-1929; elected fellow of the British Academy, 1930. His writings include *Constitutional Experiments of the Commonwealth* (1891); *A Short History of English Law* (4th ed., 1928); *Outline of English Local Government* (7th ed., 1930); *Government of the British Empire* (5th ed., 1937); *The Ship of State* (1939).

JENKS, **George Charles**, (pseudonym W. B. LAWSON), Anglo-American author: b. London, Eng., April 13, 1850; d. Auburn, N. Y., Sept. 13, 1929. He came to the United States in 1872 worked as a printer for 10 years, and began as a newspaper writer in Pittsburgh, Pa., in 1882. In 1895 he went to New York where he wrote dramatic criticism and contributed to the *Nick Carter* and *Diamond Dick* series of dime novels.

JENKS, **Jeremiah Whipple**, American political economist: b. Saint Clair, Mich., Sept. 2, 1856; d. New York City, Aug. 24, 1929. After graduation from the University of Michigan in 1878, he taught Greek, Latin, and German at Mount Morris College, Illinois, studied law, and was admitted to the Michigan bar in 1881. In 1883 he went to Germany for graduate study in political economy at the University of Halle, received his doctorate in 1885, and the same year published his thesis, *Henry C. Carey als Nationalökonom*. Returning to the United States, he taught political economy and English literature at Knox College, Galesburg, Ill., 1886-1889; was professor of economics and social science at Indiana University, 1889-1891; professor of political economy at Cornell in 1891-1912; professor of government and director of the division of public affairs at New York University, 1912-1917, and subsequently director of the division of oriental commerce and politics.

In 1899-1901 Dr. Jenks was adviser to the United States Industrial Commission in its investigation of trusts and industrial combinations in the United States and Europe. As special representative of the United States War Department he was sent to the Orient in 1902 to study

questions of currency, labor, internal taxation and police; in 1903-1904 was a member of the United States Commission on International Exchange in special charge of reform of the currency in China; and in 1907-1910 was a member of the United States Immigration Commission. He was president of the American Economic Association in 1906-1907, and was chairman of the board of directors of the Alexander Hamilton Institute. He was recognized as one of the foremost authorities on the trust question, and his writings are marked by scholarly and accurate investigation, and clarity.

He published *The Trust Problem* (1900; rev. with W. E. Clark, 1917). He was editor and part author of *Reports of the United States Industrial Commission on Trusts and Industrial Combination*, vol. 1 (1900); vol. 8 (1901). He compiled *Statutes and Digested Decisions of Federal, State and Territorial Law Relating to Trusts and Industrial Combinations*, 2 vols. (1900), and was part author and compiler of *Reports of Commission on International Exchange* (1904, 1905); *Citizenship and the Schools* (1906); and *The Immigration Problem*, (with W. Jett Lauck, 1913; 6th ed. rev. by R. D. Smith, 1925); with J. H. Hammond, *Great American Issues* (1921); with R. D. Smith, *We and Our Government* (1922); *Science of Business*, vol. 1 of *Modern Merchandising Course* (1927).

JENKS, **Tudor**, American editor and author: b. Brooklyn, N. Y., May 7, 1857; d. Bronxville, N. Y., Feb. 11, 1922. He was graduated from Yale in 1878, from the Columbia Law School in 1880, studied art in Paris in 1880-1881, practiced law in New York in 1881-1887, and 1887-1902 was a member of the staff of the *Saint Nicholas Magazine*. His writings include prose and verse, and a number of books for young readers. In 1902 he resumed his law practice.

JENKS, **William**, American clergyman: b. Newton, Mass., Nov. 25, 1778; d. Boston, Nov. 13, 1866. He was graduated at Harvard in 1797; ordained in 1805; served as pastor at Bath, Me. He was a chaplain in the War of 1812 and was for three years professor of Oriental languages and English literature at Bowdoin College. He settled in Boston, in 1818, engaging in special work among the seamen. He was a founder of the American Oriental Society.

He was author of *A Commentary on the Bible* (5 vols., 1834; 6 vols., 1851); *Explanatory Bible Atlas and Scripture Gazeteer* (1849).

JENNER, jě'n'ěr, **Edward**, English physician, discoverer of vaccination as a preventive of the smallpox: b. Vicarage, Berkeley, Gloucestershire, May 17, 1749; d. there, Jan. 26, 1823. He was apprenticed to a surgeon in Bristol; and in 1770-1772 was the pupil of the celebrated anatomist, John Hunter, in London. While there he also studied at St. George's Hospital. He returned to Berkeley to practice his profession. He was familiar with the belief prevalent among farmers and dairymaids that those who had had the common disease cowpox would not have smallpox, and seems to have been the first to give the matter serious study. By 1796 he had reached the conclusion that cowpox was protective against smallpox. A boy of eight whom he inoculated with cowpox in May 1796 developed

the disease, but when inoculated with smallpox the following July did not have that disease. See also **VACCINATION**.

In 1798 he published a short treatise, *An Inquiry into the Causes and Effects of the Variolae Vaccinae*, and in July 1798, Henry Cline, surgeon to Saint Thomas' Hospital, introduced vaccination into that institution. The practice was adopted in the army and navy and in the country generally, and soon spread to other countries, and honors and rewards were conferred on the author of the discovery. In 1802 a parliamentary grant was made to him of the sum of £10,000, and five years later a second grant of £20,000. Besides the treatise already mentioned, Jenner also published various letters and papers on the same subject, as well as on others. A famous paper of his on the cuckoo appeared in the *Philosophical Transactions* in 1788.

Consult Drewitt, F. G. D., *The Life of Edward Jenner* (London 1931).

JENNER, SIR William, English physician: b. Chatham, Jan. 30, 1815; d. Greenwood, Hants, Dec. 11, 1898. He was educated at University College, London, became in 1849 professor of pathological anatomy, and in 1860 of clinical medicine in that institution, and in 1861 physician to the queen. From 1863-1872 he was professor of the principles and practice of medicine in University College, and in 1868 was created a baronet. He was the earliest to establish the difference in kind between typhus and typhoid fevers.

JENNET, jën'ët, a small Spanish horse with a strain of Arabian blood, of high reputation for its beauty of form and its speed. The name is of English and French usage and was perverted from its original meaning, designating a horseman of a Berber tribe.

JENNIE GERHARDT, a novel by Theodore Dreiser (q.v.) published in 1911. The daughter of a poverty-stricken family, Jennie Gerhardt meets the Honorable George Sylvester Brander through her job of helping her mother take in washing. Senator Brander is charmed by Jennie's innocence and sweetness and, having become her lover, promises to marry her. Before the marriage can be performed, Brander dies and Jennie is left with her unsympathetic family. Her father sends her away in anger to have her child, and Jennie later obtains a position as household servant in another city where she meets Lester Kane, son of a moderately wealthy family. Jennie slips into a life with Kane that is routine and pleasant, even without benefit of clergy her only regret being that she cannot have her child, Vesta, with her. Their marriage is delayed for numerous family and financial reasons, and Lester, at Jennie's insistence, marries Letty Gerald. He provides a home for Jennie; but Vesta dies, and Jennie adopts two orphans. Lester falls ill and his death leaves Jennie with no one to take care of her.

Written in Dreiser's pedestrian and even pompous prose, *Jennie Gerhardt* was a revolutionary novel when it appeared, setting the stage for other naturalistic novels to follow. Moral transgressions, of the sort committed by Jennie not once, but twice, were considered wiped out only by death. Dreiser, the naturalist, treats the problem as one of the individual and society.

Jennie had no intellectual qualities; her desires and emotions were on an elementary plane. She placed a high value on very few things, with the exception of her child's welfare. She paid for her actions in loneliness and insecurity. She was, as the author says, one of those who . . . "come without understanding and that go again without seeming to have wondered why."

JENNINGS, jën'ingz, Herbert Spencer, American zoologist: b. Tonica, Ill., April 8, 1868; d. Santa Monica, Calif., April 14, 1947. He was graduated at the University of Michigan in 1893, received his Ph.D. from Harvard in 1896, and later studied in Germany at the University of Jena. He taught botany and zoology at various colleges and universities until 1905; in 1906 was appointed professor of zoology at Johns Hopkins University; and from 1910 to 1938 was director of the zoological laboratory there. After 1939 he was research associate at the University of California at Los Angeles. He served as associate editor of the *Journal of Experimental Zoology* and of *Genetics*. In research work he specialized in the physiology of microorganisms, animal behavior, and genetics. Among his works are: *Behavior of Lower Organisms* (1906); *Prometheus—or Biology and the Advancement of Man* (1925); *The Biological Basis of Human Nature* (1930); *The Universe and Life* (1933); and *Genetic Variations in Relation to Evolution* (1935); with others, *Scientific Aspects of the Race Problem* (1941). He also wrote numerous papers for scientific journals.

JENNINGS, Louis John, Anglo-American journalist and politician: b. London, May 12, 1836; d. London, Feb. 9, 1893. He was on the staff of the *London Times* in London, India and New York from 1860 until 1867, when he became editor of the *New York Times*. He attacked the Tweed Ring in the columns of the *Times* and was largely instrumental in bringing its activities to an end. In 1876 he resumed his residence in England, where he represented Stockport in Parliament in 1885-1886, and 1892.

JENNINGS, Sarah, DUCHESS OF MARLBOROUGH. See **MARLBOROUGH, DUKE OF**.

JENNINGS, city, Louisiana, Jefferson Davis Parish seat, altitude 25 feet, is located on the Mermentau River, 32 miles east of Lake Charles, on the Southern Pacific Railroad, in a rice, cattle and oil district. The first discovery of petroleum in the state was made here in 1901. The city has rice driers, elevators and mills, shipyards, wood preservation plants, petroleum refineries, and manufactures oil-well supplies. It was settled in 1884, and has a commission form of government. Pop. (1950) 9,663.

JENNINGS, city, Missouri, St. Louis County, is located just north of and adjacent to the city of St. Louis, on the Wabash Railroad. It is a home and business community, was settled in 1870, incorporated Dec. 27, 1946, and has mayor-council government. Pop. (1950) 15,282.

JENOLAN CAVES, Australia, about 70 miles west of Sydney near the Blue Mountain plateau in New South Wales. Arranged on four or five levels, the caves were formed by the

Jenolan River. Thousands of tourists visit them annually.

JENSEN, yĕn'zĕn, Adolf, German composer: b. Königsberg, Germany, Jan. 12, 1837; d. Baden-Baden, Jan. 23, 1879. An admirer of Robert Schumann, his work included *Lieder aus dem spanischen Liederbuch*; the song cycle, *Dolorosa*; *Gaudeamus* (12 songs for bass); the famous *Alt Heidelberg*; an opera, *Turandot*; and, in instrumental music, *Hochzeitsmusik* and *Erotikon*.

His brother, GUSTAV JENSEN (1843-1895), composed chamber music, piano pieces, and numerous songs.

JENSEN, yĕn's'n, Johannes Vilhelm, Danish novelist: b. Farsø, Denmark, Jan. 20, 1873; d. Copenhagen, Nov. 25, 1950. The son of a veterinary, he studied medicine at the University of Copenhagen before deciding on a writer's career. His first important novel was *Kongens fald* (1900-1901; Eng. tr., *The Fall of the King*, 1933), a story of the early 16th century, containing a notable psychological study of Christian II of Denmark. This was followed by *Madame d'Ora* (1904) and *Hjulet* (*The Wheel*, 1905), set in New York City and Chicago, which Jensen had visited in 1897. Another important early work was *Himmerlandshistorier* (1898-1910), a three-volume collection of stories of his native region. Travels in the Far East inspired the *Eksotiske noveller* (*Exotic Stories*, 1907-1915). Under the influence of Darwinian theory, Jensen wrote his major work, *Den lange rejse* (1909-1922; Eng. tr., *The Long Journey*, 1922-1924), a fictional saga of the evolution of the Northern peoples from the time of the glaciers to the 15th century, originally published in six parts. It was for this work chiefly that he received the Nobel Prize for literature in 1944. Jensen visited the United States for the second time in 1939. Besides books of lyric verse he published seven volumes of *Myter* (*Myths*), for which he created a distinctive form; translated Shakespeare's *Hamlet* into Danish; wrote several scientific works, including *Dyrenes forvandling* (*The Transformation of Animals*, 1927), and *Aandens stadier* (*Stages in the Development of Mind*, 1928); and at his death was generally considered Denmark's greatest writer.

JENSEN, yĕn'zĕn, Wilhelm, German novelist and newspaper editor: b. Heiligenhafen, Germany, Feb. 15, 1837; d. Thalkirchen, near Munich, Nov. 24, 1911. The author of more than 100 works, including tragedies, histories, lyric and epic poetry, he was distinguished principally for his novels, notably *Magister Timotheus* (1866); *Die braune Erika* (1868); *Eddystone* (1872); *Nirwana* (1877); *Diana Akhnoba* (1890); *Hunnenblut* (1895); *Luv und Lee* (1897); and *Vor der Elbmündung* (1905). While working as a novelist he was also the editor (1865-1869) of the *Schwäbische Volkszeitung* at Stuttgart, and of the *Norddeutsche Zeitung* (1869-1872) at Flensburg.

JENSON, zhān-sōn', Nicolas, French printer and designer: b. Sommevoire, Haute-Marne, France; d. Venice, Italy, 1480. He was master of the royal mint at Tours when Charles VII sent him to Mainz, Germany, to learn the art of printing from Johann Gutenberg, under whom he worked for three years. Jenson later set up his own printing establishment in Venice, and pro-

duced more than 150 books between 1470 and 1480, including many celebrated editions. He was named a count palatine by Pope Sixtus IV in 1475. His special contribution to the printing art was the introduction of a much-copied alphabet of roman capitals, to which he added lower-case letters of unsurpassed distinction. From these the English typographer, William Caslon (1692-1766), evolved the type face known by his name, while in the United States notable contemporary designs by Bruce Rogers also have taken Jenson's type as a model. See also TYPE AND TYPE FOUNDING.

Consult DeVinne, Theodore L., *Notable Printers of Italy during the Fifteenth Century* (New York 1910).

JENYNS, jĕn'inz, Soame, English politician and writer: b. London, Jan. 1, 1704; d. there, Dec. 18, 1787. He was elected to Parliament for Cambridgeshire in 1742, sat in the House until 1780, and was a commissioner of the Board of Trade and Plantations (1756-1780). He is chiefly remembered for the scathing review by Dr. Samuel Johnson in the *Literary Magazine* of his *Free Enquiry into the Nature and Origin of Evil* (1757). Besides some poems he also published *The Objections to the Taxation of Our American Colonies* (1765), and *A View of the Internal Evidence of the Christian Religion* (1776), which was translated into several languages.

JEOPARDY, jĕp'ēr-dī, in law, a term referring originally to the hazards of trial by battle, but now a legal term for the peril incurred in a criminal process when a defendant has been regularly charged with a crime before a competent tribunal. According to the United States Constitution (5th Amendment), no person shall be twice put in jeopardy of life or limb for the same offense. Jeopardy is construed by most authorities as beginning when a person has been put on trial and a jury has been impaneled and sworn to try him; if he is acquitted or convicted by them, he is not liable to stand trial a second time. In case of a mistrial or failure of the jury to agree, however, a new trial may be held.

JEPHSON, jĕf's'n, Robert, Irish playwright: b. Ireland, 1736; d. Blackrock, near Dublin, May 31, 1803. He served in the British Army and, on retiring with the rank of captain about 1763, lived for a time in England, where he became acquainted with David Garrick, Oliver Goldsmith, and Sir Joshua Reynolds. Returning to Dublin about 1767, he began to write for the stage. He was the author of *Braganza* (1775) and other tragedies, including *The Law of Lombardy* (1779), *The Count of Narbonne* (1781), and *Conspiracy* (1796).

JEPHTHAH, jĕf'thā, one of the judges of Israel. A son of Gilead, he was driven from home by his brothers and took refuge in the land of Tob; but when the Ammonites made war on Israel, he returned at the appeal of the elders to lead the defense of his country. This he did successfully, first taking a vow that he would make a burnt offering of whatever came to meet him from his house if he returned victorious. He was met by his daughter, who was accordingly sacrificed two months later and for whom thereafter the women of Israel observed a four-day period of lamentation annually. His story is told in Judges 11:12-7.

JEPSON, jěp's'n, Edgar, English novelist: b. London, Nov. 28, 1863; d. April 11, 1938. Educated at Oxford, he published *Sibyl Falcon* (1895); *The Passion for Romance* (1896); *The Keepers of the People* (1898); *On the Edge of the Empire* (1900); *The Horned Shepherd* (1904); *The Triumphs of Tinker* (1905); *Arsène Lupin* (1908); *The Man Who Came Back* (1915); *A Prince in Petrograd* (1921); *The Smuggled Masterpiece* (1923); *The Buried Rubies* (1925); *Memories of a Victorian* (1933); *Lucy and The Dark Gods* (1936).

JEQUITINHONHA, zhě-kě-tě-nyó'nyá, or **RIO GRANDE DO BELMONTE**, river, Brazil, located in the eastern coast country. It rises in the Serra do Espinhaço in the state of Minas Gerais, and flows in a northeasterly direction through the state of Bahia, emptying into the Atlantic Ocean near Belmonte, about 200 miles south of Salvador (Bahia). The river is about 500 miles long and, in the upper three quarters of its course, the current is swift. At Salto Grande, about 100 miles from the coast, is a cataract, considered one of the grandest in South America. The river is navigable for about 60 miles from the coast.

JERABEK, yě'r'zhā-běk, František, Czech dramatist: b. Sobotka, Jan. 25, 1836; d. Prague, March 31, 1893. He was educated at Leitmeritz and at Prague, and afterward engaged in teaching, journalism, and the writing of plays. He edited *Pokrok* and was at different times a member of the Bohemian Diet and the Austrian Reichsrat. He was author of a history of the beginnings of romantic poetry, *Stará doba romantického básnictví* (1884). His dramas deal with social problems and include several based upon historical facts. Among them are *Hana* (1858); *Služebník svého pána* (*Faithful Servant of His Master*, 1870; Ger. trans., 1872); and *Závist* (1885).

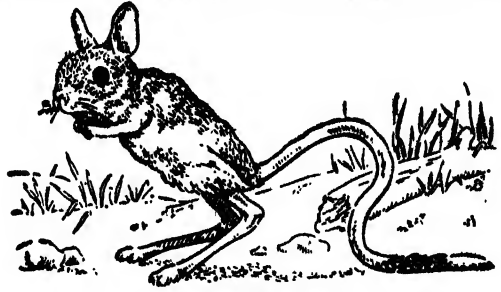
JERAHMEEL, jě-rā'mě-ěl, the name of a tribe friendly with David when he was in exile in Ziklag. Their founder is supposed to have been the brother of Caleb, the intimate of Joshua. The tribe is supposed to have penetrated Israel quite thoroughly and it is T. K. Cheyne's theory that many corruptions of the Old Testament text came from them.

JERASH, jŭ'rōsh (ancient GERASA, jě'r'ā-sā), town, Jordan, 20 miles north of Amman and a like distance east of the Jordan. In 83 B.C. it was captured by Alexander Jannaeus, and was rebuilt by the Romans in 65 B.C. In the reign of Vespasian it was taken and burned by Lucius Annus. It was once the seat of a Christian bishop, but soon sank into decay. The ruins of the old city are extensive, many fine columns and walls attesting its former splendor.

JERBOA, jě-rbō'ā, a common name including several genera of small jumping rodents, chiefly nocturnal, of the family Dipodidae found in parts of North Africa, Asia and southeastern Europe, characterized by greatly elongated hind legs and a long tail.

The word jerboa is derived from the Arabic name for the Egyptian form *Dipus* or *Jaculus aegyptius*, which ranges from northern Arabia to Algeria. It is a small animal which walks on

the toes of the hind feet, but which, when hurried, progresses at great speed by long leaps. A striking anatomical adaptation to the jumping habit is seen in the modification of the hind feet. The first and fifth toes have been lost and the metatarsal bones of the remaining three are greatly elongated and fused into a single bone. The very small forelegs are held so closely against the chest that they are hardly noticeable, and the animal is sometimes called the "two-legged mouse." The generic name *Dipus* signifies two feet. The three-toed Egyptian jerboa inhabits arid, sandy or pebbly deserts where vegetation is extremely sparse and where its predominantly



Jerboa (Egyptian).

fawn color renders it very inconspicuous. It is a gregarious animal and a number of individuals excavate their labyrinthine burrows in close proximity. The burrow may have several entrances. The jerboa spends much of the day in its home but comes out before sunset to forage for food, chiefly vegetable, though insects also are eaten. This species remains active throughout the year but some of its more northerly relatives, the five-toed jerboas, e.g. *Allactaga* (*Alactaga*) and *Euchoreutes*, of Central Asia, may hibernate for as long as five or six months. In these forms the hind feet retain the first and fifth toes though they are markedly reduced in size. The kangaroo rat (q.v.) and the jumping mouse of North America resemble the jerboas remarkably in their adaptations, but the likenesses represent only evolutionary parallelisms.

JERDAN, William, Scottish journalist: b. Kelso, Roxburghshire, April 16, 1782; d. Bushey Heath, Hertfordshire, July 11, 1869. He engaged in journalism in London in 1806, was present in the lobby of the House of Commons when Spencer Perceval was shot, May 11, 1812, and was the first to seize the assassin. He became editor of the Tory organ, the *Sun*, in 1813, and was complimented in high quarters for the freshness of his foreign news. He introduced, too, the then uncommon feature of almost daily literary articles in his columns. In 1817 he became connected with the *Literary Gazette* as editor and part owner, acquiring sole ownership in 1842, and until 1850 he edited and directed the periodical with exceptional ability. He was closely associated with many prominent writers of his time. His personal fortunes were impaired, through the Whitehead Bank failure of 1808 and the panic of 1826, and the dishonesty of a friend to whom he had entrusted investments finally ruined him financially. His friends subscribed a testimonial of more than £900 and in 1853 he was granted a pension of £100 from the civil list. Among his writings the most valuable are *Autobiography*, 4 vols. (London 1852-1853), and *Men I Have Known* (1866).

JEREMIAH. A great Judæan prophet. He seems to have been born at Anathoth, the modern Anat, three miles north of Jerusalem, c. 650 B.C., and belonged to a priestly family residing there. His father Hilkiah has been identified with the discoverer of the law (2 Kings xxii, 28) by Clement of Alexandria, Pseudo-Jerome (c. 800), Joseph Kimchi, Paul of Burgos, Abarbanel and a number of other interpreters; and V. Bohlen supposed that father and son collaborated in the production of the code promulgated in 620 B.C. This identification was rejected by Lyrannus, Calvin, Junius, Piscator and others, because he is not described as the high-priest; Castro, Sanctius, Ghisler, Sebastian Schmidt, Carpozov, Calmet, Venema, Blayney and most recent exegetes have assumed that he was a descendant of Abiathar, the priest deposed by Solomon and relegated to Anathoth (1 Kings ii, 26), and Ryssel thinks the opposition of Jeremiah to the priesthood in Jerusalem was a continuation of the rivalry between the sons of Eli and the Zadokites. It is possible, however, that in the course of four centuries members of other priestly families had moved into the town so conveniently near the capital. Jeremiah had an uncle by the name of Shallum, and a cousin named Hanamel. From Jer. xvi, 1 it may be inferred that he never married. He probably began his prophetic ministry in 625 B.C. When he heard the divine voice calling him to be a prophet to his people, he was first reluctant because of his youth, but was reassured by a vision of an almond tree the name of which suggested that Yahwe would watch over his oracles to bring them to early fulfilment, and forced to speak by a vision of a seething caldron whose smoke was blown from the north, indicating the direction whence the evil would break forth. Until recent times it was generally supposed that the enemy whose advance into Judah Jeremiah expected was the Chaldean. Allusions to the Scythian invasion described by Herodotus (i, 105) by his contemporary Zephaniah were suspected by Pezron ('*Essai sur les prophètes*, 1693), Hermann v. der Hardt ('*In Iobum*, 1728) and F. C. Cramer ('*Scythische Denkmäler in Palästina*, 1777). Volney ('*Recherches nouvelles*, 1814) and Eichhorn (1819) identified Jeremiah's northern enemy with the Scythians, and this opinion has been adopted by the majority of critics and historians. But the older view has been maintained, not only by Kueper, Hävernick, Neumann, Tholuck, Nägelsbach, Keil, Vigouroux, Trochon, Schneedorfer, Knabenbauer and Myrberg, but also by Graf, Reuss, 1814) and Eichhorn (1819) identified Jeremiah himself and many of his hearers looked upon Yahwe's oracles of doom as conditional, so that if the conduct of the people warranted it, he would repent him of the evil he had spoken (xxvi, 17-19). With their ignorance of the secret treaties in the chancelleries of the allied nations their narrow escape from the Scythians who naturally spared Assyrian territory must have seemed to them more marvelous than it does to us. An increased fear of Yahwe and gratitude toward him, in consequence of his deliverance, may have prepared the way for the reform of 620. Some scholars have supposed that Jere-

miah went about preaching in the interest of the centralization of the cult in Jerusalem, and was persecuted by his townsmen because of his advocacy of the Deuteronomic Code. His attitude toward the temple, the sacrificial system, and the written law renders this improbable. It is significant that the prophetess Huldah, and not Jeremiah, was consulted after the discovery of the law-book. If his declaration that "the false pen of the scribes has wrought falsely" (viii, 8) referred to some other code then being prepared in priestly circles, he would have laid himself open to serious misapprehension, since those who said "the law of Yahwe is with us" undoubtedly had in mind the Deuteronomic Code that had been discovered and officially adopted (2 Kings xxii, 8; xxiii, 3). To the covenant of Yahwe, involving obedience to his commandments when he led his people out of Egypt, he sincerely answered Amen (xi, 5); but he was convinced that on that day Yahwe had not spoken concerning burnt-offerings and sacrifices (vii, 22). If the people of Anathoth conspired to put him to death (xi, 19), it was because he had rebuked them for worshipping other divinities, among them probably the goddess Anath. He may at this time have removed to Jerusalem. Practically nothing is known of his life during the next fifteen years. It is strange that the battle of Megiddo and its tragic outcome have left no echo in his extant prophecies. Like Isaiah, he was strongly opposed to any alliance with Egypt; but neither does he seem to have favored a pro-Assyrian policy (ii, 18). His silence may indicate disapproval of Josiah's course, whether it was dictated by loyalty as a vassal or ambition for additional territory as a reward for service. The Chronicler charges Josiah with having disregarded the warning of a pagan oracle not to interfere in a quarrel that was not his (2 Chron. xxxv, 21ff); and even if the story was invented to account for the fate of a good king, it nevertheless reflects a position that may well have been Jeremiah's. He ascribes to the prophet an elegy (vs. 26) which is lost and can scarcely be thought to be genuine. The Assyrian empire fell in 606, and the eyes of Jeremiah turned once more to the north to discover what Yahwe's purpose was. It was probably his unshaken faith in the oracles Yahwe had given him to utter that made it certain to his mind that the real evil would not come from the south (Egypt), but from the north. Nebuchadnezzar's march through Mesopotamia, his victory over Necho at Carchemish in 605, and his descent to the border of Egypt revealed to Jeremiah that it was not Media, into whose power Assyria proper had fallen, but Chaldaea, that was to be the scourge in Yahwe's hand to bring his people to a genuine reformation or to utter ruin. The moral condition of Judah and the character of Jehoiakim rendered the need of such a visitation obvious. It may have been when the defeat of Necho's arms had driven the people with renewed zeal to the Yahwe-cult in the temple that Jeremiah appeared with an oracle predicting the destruction of the great sanctuary in whose inviolability they believed (vii, 1ff).

In 605 Baruch is said to have written in a roll from the mouth of Jeremiah all the words

that Yahwe had spoken to him. The reason for this procedure was probably not that Jeremiah was unacquainted with the art of writing, as Buttenwieser thinks, or as a man of letters found it convenient to dictate to his private secretary from a note-book kept by him for many years, as is generally supposed, but rather, as Stade has pointed out, that he was an inspired oracle-giver whose utterances in a state of ecstasy might be written down by another. The new word of Yahwe contained, no doubt, the substance of many an oracle in the past, but the burden of its message was that the enemy from the north, long ago announced by Yahwe, now distinctly named as the king of Babylon, would come and destroy the land and its inhabitants (xxxvi, 29). When the roll was the following year cut up and burned by Jehoiakim, Jeremiah hid himself, but continued to denounce the king, e.g., for his failure to pay his workmen, and to predict for him an evil death. Nor did he think that Yahwe would help Jehoiachin, who was actually deported in 597. In the time of Zedekiah (597-586), he strenuously opposed the Egyptian party which advocated independence, and finally persuaded the king to open rebellion against Nebuchadnezzar. Another prophet, Hananiah, announced in the name of Yahwe that Jehoiachin and the exiles would return in two years; Jeremiah declared that the exile would last 70 years, and is said to have threatened Hananiah with death within a year. In 587, when Nebuchadnezzar temporarily raised the siege of Jerusalem, Zedekiah requested the prophet to consult Yahwe, and received the advice to surrender. At this time his indignation was aroused by the reduction to slavery again of freedmen emancipated at the approach of the Chaldeans. As he counseled desertion to the enemy, and by his speeches "weakened the hands of the men of war," he was imprisoned, and an attempt was apparently made to put him to death. When the city was captured he was allowed to remain in Palestine with his people. How long he survived the fall of Jerusalem is not known. After the murder of Gedaliah he is said to have been forced to accompany a number of fugitives into Egypt, and to have predicted at Daphnæ the conquest of Egypt by Nebuchadnezzar, the massacre or deportation of its people, the burning of its temples and the destruction of all the Jews in Migdol, Daphnæ, Memphis and Upper Egypt. The Elephantine papyri, discovered in 1904, have revealed the fact that there was a Jewish military colony on the island opposite Syene, having a temple of its own in 526 and continuing its existence throughout the 5th century. It probably was brought into the country by Psammetichus I. This colony was certainly not destroyed by Nebuchadnezzar. We possess no evidence of a conquest of Egypt by this king. The account of Nesu Hor, governor of Syene, was once supposed to allude to it, but it is now generally recognized that it refers to a rebellion of Libyan, Greek and Syrian garrisons in the cataract district. A badly mutilated cuneiform inscription from the 37th year of Nebuchadnezzar mentions a conflict with a king of Egypt of whose name only the syllable *su* is legible. Wiedemann and others thought that the original text must have

told of a raid into Egypt. But Maspero, *'Histoire ancienne'* (1899) and Breasted, *'History of Egypt'* (1905) seem to be right in maintaining that no inference can be drawn except the dispatch by Amasis of naval and land forces to meet the Chaldeans and a probable loss of Syrian territory. We now know that the colony at Elephantine was not annihilated or carried away by Nebuchadnezzar, and that it continued to worship other gods besides Yahwe in a temple which was not destroyed even by Cambyses, but ruined by the priests of Chnub from Syene in 411. It may have been broken up when Egypt recovered its independence in 404; and it is not improbable that a later Palestinian writer, knowing that there had been exiles in various parts of Egypt in the time of Jeremiah, but as ignorant in regard to the history of the Jews of Elephantine as the modern world was until 1904, supposed that the earlier colonies had been destroyed by Nebuchadnezzar, and put upon the lips of the prophet oracles announcing their doom. Some interpreters who, like Duhm, are strongly convinced that as a whole these oracles cannot have come from Jeremiah, nevertheless assume a small genuine nucleus. If they are right, Jeremiah's latest prognostications were no more destined to a literal fulfilment than some of the earlier ones. Most students recognize to-day that his greatness as a prophet does not depend upon the accuracy with which he was able to foretell future events. History does not record when, where and in what manner he died. According to a legend preserved by Tertullian, Jerome, Epiphanius and Isidore of Pelusium, he was stoned to death by his people in Daphnæ, while others relate that he was brought from Egypt to Babylon by Nebuchadnezzar or returned with Baruch to Palestine. In 2 Macc. ii, 4ff, he is said to have hidden the tabernacle, the ark and the altar of incense in Mount Nebo, and in 2 Macc. xv, 12ff he appears to Judas Maccabæus, presenting him with a sword. Numerous other stories have been collected by Neumann (*'Jeremias von Anathoth,'* 1856) and Ginzburg (*'Jewish Encyclopædia,'* 1904).

The estimate of Jeremiah is necessarily affected by the evidential value assigned to the various parts of the book that bears his name. Renan considered him as a fanatic filled with hatred of the human race; but this judgment was based upon oracles against foreign nations which probably are not his. The opinion of Maurice Vernes that a prophet who gave his people the counsel to surrender is a historically impossible character arises from a failure to recognize the highest type of patriotism, and the tendency of religious genius to subordinate all considerations of state to the demands of the divinity. Certain charges of cowardice, disingenuousness, partisanship and personal animosity are in a large measure based on stories which are perhaps too unquestioningly accepted as in every detail accurate. His physical courage may not have been always equal to his spiritual boldness; he may not have been altogether free from vindictiveness, and Bennett wisely warns against picturing Hananiah and the Egyptian party as absolutely black, Jeremiah and the Chaldean party as absolutely white. His strong sense of being in the right made him firm as a wall when the occasion de-

manded it, and also made the patriotic ardor of his opponents seem like treason against Yahwe. The popular conception of him as the "weeping prophet" is largely derived from Lamentations. There is no mistaking, however, his prevailing sadness and his tenderness of heart. The idea that he foretold a new covenant, the restoration of the monarchy, and a boundless material prosperity is based on oracles that probably were not uttered by him. It was given to this prophet to see more clearly than his predecessors how independent real religion and true morality are of the ceremonies of a temple cult, the external authority of a written law, and the shifting fortunes of political society, to enter fresh fields of spiritual experience and to open new paths of personal piety.

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JEREMIAH, Book of. One of the canonical books of the Old Testament. In the Hebrew Bible it once occupied the first position among the later prophets. A tradition preserved in 'Baba bathra,' 14b, 15a, gives the following order of these prophets: Jeremiah, Ezekiel, Isaiah and The Twelve. Vitringa suggested that Jeremiah was made to follow the books of Kings, because these were also ascribed to the prophet. Some modern scholars have thought that Isaiah was put in the third place because it contains many late additions; but these were not recognized as such, and the whole book was clearly assigned to the age of Hezekiah. The Babylonian Talmud explains the order by declaring that "the book of Kings ends in desolation, Jeremiah is all desolation, Ezekiel begins with desolation and ends with consolation, and Isaiah is all consolation." ('Baba bathra,' 14b). A manner of reasoning that would thus account for an existing order is not unlikely to have influenced the original arrangement, since the principle of placing

words of comfort after words of reproof is characteristic of editorial activity not only in the larger volumes but also in the smaller collections that were gathered together to form them. But as late as the 1st century A.D. each book seems to have been written on a separate roll (Luke iv, 17), and in enumerating them the order apparently varied as is seen in the Greek Bible and its daughter-versions where Isaiah precedes Jeremiah and Ezekiel and even Daniel is still counted among the prophets.

The Hebrew text found in our extant manuscripts presents substantially, so far as the consonants are concerned, the book as it was officially recognized in the Palestinian synagogues in the 2d century A.D., while the vocalization exhibits the tradition prevalent in the 7th. The translations into Syriac, into Greek by Aquila, Symmachus and Theodotion, and into Latin by Jerome, as well as the Aramaic Targum, testify in the main to this type. On the other hand, the earliest Greek translation, from which the Old Latin, Coptic, Ethiopic, Armenian, Georgian, Slavonic and Syro-Hexaplaric versions were made, seems to bear witness to a Hebrew text considerably shorter and in part differently arranged. Passages of some length, such as xvii, 1-4, xxvii, 19-22, xxix, 16-20, xxxiii, 14-26, xxxix, 4-13 and lii, 28-30, and others are not represented in it, and numerous duplicated utterances, single verses and words are lacking. It has been estimated that the Greek version is about one-eighth shorter than the Hebrew text. The prophecies against foreign nations, xlii-li, are placed in the middle of the volume between xxv, 13 and xxv, 15, and the order of the nations is different. These facts have been explained in various ways. The substantial accuracy of the masoretic text has been defended and the translator himself or later copyists charged with wilful alterations, omissions and blunders by Jerome, Grabe, Spohn, Kueper, Hävernick, Wichelhaus, Nägelsbach, Graf, Keil, Frankl, Vatke, Reuss, Orelli, Payne Smith, Kühl, Strack, Kaulen, Trochon, Schneedorfer and Cornely. That the Greek version actually represents a briefer and more original Hebrew text has been the opinion of J. D. Michaelis, Eichhorn, Dahler, Movers, De Wette, Hitzig, Bleek, Neteler, Scholz, Workman, Streane, Stade, Schwally, Coste, Cheyne, Giesebrecht, Schmidt, Duham, Baudissin, Erbt, Thackeray, Gautier, Gigot, Cornill, Peake, Sellin and Moore. Some Catholic scholars have not improperly compared the additional material in the Hebrew text with the additions to Daniel and Esther in the Greek text. In both instances we have probably to deal with interpolations and expansions already extant in the language of the original, preserved in one case by the Hebrew and the later versions, in the other by early as well as late Greek translations, but not in the Hebrew or Aramaic. The question has been raised whether there was only one Greek version of Jeremiah before the days of Aquila, Symmachus and Theodotion. Not only Justin but also Josephus and some of the New Testament writers seem to have used a translation more in accord with the masoretic text than that presented by the great uncials. It is almost certain that the author of Rev. xviii, 20, knew and imitated Jer. i, 48, and that Matt. xxvii, 32

betrays an acquaintance with Jer. x, 7, 10. Probably Theodotion made his translation on the basis of a version already extant in the 1st century A.D. The theory of an Egyptian and a Palestinian recension, advocated by Michaelis, Eichhorn, Movers and others, has now been generally abandoned, and recent critics simply assume that we possess in the Old Greek and the Hebrew two phases, both of them relatively late, of the development of the same text.

These conclusions have naturally strengthened the suspicion of other additions to the original made before the first translation appeared. David Kimchi, Abrabanel, Luther, Calvin, Grotius and Huet considered the statement "Thus far are the words of Jeremiah" in li, 64, as showing that no part of lii was written by the prophet, and Richard Simon inferred that Jeremiah was not the only author of the book. It is generally held to-day that this chapter was either copied from 2 Kings xxv or from a source also used by the author of this work. The prophecy against Babylon, l-li, has been regarded as coming from a later hand by Eichhorn, v. Coelln, Gramberg, Maurer, Knobel, Ewald, S. Davidson, Rowland Williams, Kuenen, Herzfeld, Budde, Cheyne, Reuss, König, Driver, Kautzsch, Strack, Vatke, Wildeboer, A. B. Davidson, Schmidt, Duhm, Erbt, Baudissin, Bruston, Cornill, Bennett, Gigot, Findley, Peake, Moore, Fowler, Sellin and Creelman. Its genuineness has been defended by Kueper, Umbreit, Hävernicks, Bleek, Riehm, Nägelsbach, Keil, Graf, Trochon, Kaulen, Knabenbauer, Cornely, Myrberg and Orelli. Movers, De Wette, Hitzig, Scholz and others have assumed a small Jeremianic nucleus, but the evidence seems to be strongly against this assumption. Eichhorn also expressed grave doubts as to the prophecies against foreign nations in xlvii-xlix, and they have been assigned to a later period by Vatke, Stade, Schwally, Wellhausen, Smend, Budde, Schmidt, Duhm and Marti. Many scholars, like Hupfeld, Kuenen, Rowland Williams, Cheyne, Giesebrecht, Bleeker, A. B. Davidson, Cornill, Driver and Peake, have attempted to vindicate for Jeremiah some part, greater or smaller, in the composition of these chapters, while others have sought to maintain that they are altogether his, but there is a growing impression of an irreconcilable conflict between the spirit animating them and the tone and tenor of the universally recognized utterances of Jeremiah. A sense of this contrast seems to have been felt in early times when the promises of restoration were added, xlv, 26, xlviii, 47, xlix, 6, and xlix 39 which were still absent (probably also in xlix, 39) in the copy the first translator used.

Movers, De Wette and Hitzig noticed in xxx-xxxi a strong affinity to Isaiah xl-lxvi, and suggested that the author of the latter had edited and interpolated the former. Hupfeld ('*Einleitung in das Alte Testament*,' 1859; MS. in the writer's possession) suspected the two chapters of being altogether spurious "because of their close kinship to Pseudo-Isaiah"; Vatke, Stade, Smend, Schmidt and Hölcher reached the same conclusion, partly for other reasons, and Duhm and Cheyne rejected most of this work, including xxxi, 31-34, which is looked upon by many others as the Jeremianic

kernel. The Aramaic verse, x, 11, was supposed by Houbigant and Venema to have been added by a later hand; the secondary character of the whole section, x, 1-16, has since then been recognized by many; and the same applies to iii, 16-18, xii, 14-17, xvii, 19-27, and other passages. A number of minor poems, psalm-fragments and elegies were marked by Stade ('*Geschichte Israels*,' 1889) as interpolations. Some of them have been claimed for Jeremiah by Duhm on metrical grounds. Seeing that these "confessions" have been widely used in the characterization of Jeremiah's inner life, a more searching examination of them is greatly needed. As to the historic parts, Hupfeld considered xl, 2-xlii, 6, as a later insertion, and A. B. Davidson declared xlii, 7-22, "on account of its rather debased style and other peculiarities" to be "a free construction from the hand of the historian." This sketch has been much admired for its life-likeness, and in its original form may have revealed more of the narrator's art, though this is not considered by all critics as in itself vouching for its accuracy. Pierson pointed out many apparent inconsistencies and improbabilities in the various narratives. Several interpreters have suggested that the account of the prophet's journeys to the Euphrates (xiii) is an allegory or dramatization of an oracle. Schmidt (1900) looked upon xxxv as having a similar origin, its purpose being to explain the elevation of some Rechabites into a position in the lower clerus, and questioned the age and strictly historical character of some of the other stories. In many instances Duhm (1901) independently reached similar conclusions, and they were in the main approved by Kieser. The effect of the discovery of the Elephantine papyri on this line of investigation has been discussed in the preceding article.

Already Origen and Jerome observed the lack of orderly arrangement in the book. The absence of any chronological or logical sequence seems to preclude the idea of a single author or an intelligent and painstaking editor. The superscriptions assign xxi to the reign of Zedekiah, xxv to that of Jehoiakim, xxxii and xxxiv to that of Zedekiah, xxxv and xxxvi to that of Jehoiakim, xxxvii-xxxix to that of Zedekiah, and xlv to that of Jehoiakim. Even the shorter text contains numerous duplicates. From i, 3 Grotius inferred that xl-li once formed a separate book. Spinoza assumed that the prophecies are scraps collected without arrangement from different historians, and pointed to a problem in the relations of xxi and xxxviii that has not yet been satisfactorily solved. Eichhorn (1777) supposed that as late as in the time of Josephus ('*Antiquities*,' x, 79) there were two distinct books of Jeremiah, viz., (1) i-xxiv and xlv-li and (2) xxv-xlv. The passage in Josephus is obscure, and another in Sifre debe Rab seems to refer to the book of Jeremiah and Lamentations. Thomas Paine ('*The Age of Reason*,' 1798) added to Spinoza's difficulties and concluded that the book is "a medley of detached and unauthenticated anecdotes." Bertholdt (1816) assumed that there were three collections, viz., (1) i-xxiv, (2) xxv, xlv-li and (3) xxvi-xlv. De Wette and others called attention to the uncertain and sometimes even un-Hebraic character

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of the many subheadings. Aside from the prophecies against foreign nations, Ewald counted 23 such headings and regarded them as marking divisions of the book. Schmidt (1900) considered them, like the titles in Isaiah and the Psalms, as clues to the smaller collections, often indicated also by additions at the end. Thackeray (1903) reached the conclusion that i-xxiv and the prophecies against Elam, Egypt and Babylon once formed a book that was first translated into Greek, the prophecies against the lesser nations and the rest of the volume forming another which was subsequently rendered into Greek by the same hand that translated the first part of Baruch. In the light of these investigations the larger collections from which the book was formed appear to have been (1) i-xx; (2) xxi-xxiv; (3) xxv, 1-13, xlv-l, xxv, 15-38; (4) xxvi-xxix; (5) xxx-xxxiii; (6) xxxiv-xxxix; (7) xl-xlv, and the appendix lii. Of these (1) was no doubt the earliest, itself composed of several smaller collections, but united into a book of which i, 1f. was the superscription, ascribing it to the 13th year of Josiah. When (2) was added the title was probably supplemented with i, 3. There were apparently two collections of oracles against foreign nations, viz., (1) xlix, 34-39, xlv, 1-li, with its prologue, xxv, 1-13, and (2) xlvii, xlix, 1-33, xlviii, with its epilogue xxv, 15-38, of which the former was attached to the book first translated, while the latter, once circulating separately, was made the beginning of another large volume. In (4) xxvii-xxix by peculiarities of spelling that cannot have been arbitrarily limited by the copyist of the whole book to this section shows a separate origin; in (5) xxx-xxxii is referred to as a book; and in (7) xlv is clearly an appendix. Before the end of the 2d century B.C. the entire work, including lii, was available in Greek, while probably in the next century all the oracles against foreign nations were placed in some standard codex toward the close and in a somewhat different order between xlv and lii, and many more words were added in various parts. Even if this conception of the growth of the book, in some respects analogous to that now generally held in regard to the book of Isaiah, is accepted, the problem remains how genuine Jeremican oracles and trustworthy accounts of the prophet's life found their way into these collections. It is supposed by many scholars that Baruch's roll (xxxvi, 1 ff.) can be reconstructed by selecting those passages in the present book that may be considered as earlier than the 4th year of Jehoiakim, removing from them later accretions, and arranging them in a probable chronological order. But that roll, read three times in a day, cannot have been very extensive, and obviously had a special purpose. The only words that we know to have been in it (xxxvi, 29), and to which Jehoiakim strenuously objected, are not found anywhere in the sections that can be considered. Dahler and Herbst, therefore, maintained that it is in vain to look in the earlier chapters for the particular message of Baruch's roll. Grätz and Cheyne thought of xxv as containing its substance, a chapter now regarded by many as secondary; and Schmidt also considered it impossible to discover its precise contents. But as on this occasion the inspired utterance was

taken down by Baruch, it is reasonable to suppose that on other occasions this friend or other disciples committed to writing oracles that fell from the prophet's lips. The existence of such reports, afterward expanded by many words like unto them, would account for the lack of any chronological or topical arrangement. It has been thought that a sketch of the prophet's official career was written by Baruch. The manner in which he is mentioned in xxxvi, xliii and xlv and his reputed authorship of other books have made this conjecture appear quite natural. It is altogether likely that Baruch wrote down some words of the prophet even after 605-604, and not impossible that some communications coming from him formed the nucleus of the historical sketch that existed in later times and was used by the compilers. But there is no claim or suggestion of either in the book itself. Some scholars have found a hint of it in xlv, the scribe adding to his work a rebuke and a promise that no one but himself could have known. Cornill has ingeniously suggested that the great thing he sought for himself was the deliverance of Judah from the doom announced in the roll. From Jeremiah's standpoint that was not possible except through the conversion of Jehoiakim and his people to the policy of non-resistance and subjection to the Chaldeans. But why should he not seek this, what other purpose can Jeremiah have had in sending him with the roll, and how could this be described as a selfish design? Giesebrecht, Duhm and Erb reject the date given and place the incident after the destruction of Jerusalem, without making it more intelligible. Reuss questioned it, and Schwally regarded it as spurious. It is natural that a private oracle, designed to account for Baruch's escape, should have been placed at the end of the 7th collection, just as a similar oracle (xxix, 15-18) was placed at the end of the 6th. While it is, therefore, impossible to affirm dogmatically, what is at best only a theory, that certain parts of the present book have been copied from Baruch's roll and others taken from a biography written by him, it is wholly probable that we owe to him and such as he the preservation of some of the oracles uttered by Jeremiah, in 625 when the Scythian came down from the north and later in the reign of Josiah, as well as in the days of Jehoiakim, Jehoiachin and Zedekiah, and also of some facts in regard to his career, sufficient to give us a relatively clear idea of this prophet's message and character.

Jerome described the style of Jeremiah as rustic and inferior to Isaiah's. Lowth observed in some parts of the book the parallelism characteristic, as he saw, of Hebrew poetry. Blayney printed the text so as to bring out this feature, and it has been accepted by most modern interpreters. Thus a line was drawn between the parts written in an easily flowing prose and those having a poetic form. More recently it has been seen that a certain regular recurrence of stressed syllables, consequently a metre, also characterizes, not only such books as Job, Proverbs and Psalms and the poems interspersed in the historic records, but also the oracles of the prophets given in an exalted style. This has been applied to Jeremiah by Müller and Sievers, and more in detail by

Duhm, Cornill and Giesebrecht. A metre that without a question was used predominantly by Jeremiah has been regarded by Duhm as a criterion of genuineness. To some extent this is no doubt legitimate. But when it is considered how readily such a poetic form lends itself to imitation and how easily later scribes may have concealed it by innocent changes and additions, this test must be handled with great delicacy. The temptation to conjectural emendation on purely metrical grounds is strong, but the ancient witnesses to the text always have a first claim to consideration. Yet even this recent study of the prophet as a poet has tended to bring out more fully the force and beauty as well as the grandeur and significance of his oracles. Like the book of Isaiah that of Jeremiah is to modern scholarship a thesaurus of things old and new. Here, also, the great prophet who has given his name to the volume stands out pre-eminent, unrivaled in spiritual insight and power by those whose voices have become blended with his. Just as the seer who was called to meet the needs of his time by speaking comfortably to the heart of Zion, though the influence of his ideas has been very great, by no means has outstripped in power the mighty son of Amoz, so Jeremiah, as we are beginning to see him, is more truly a prophet to the nations than any seer pouring out his cup of fury on the pagan peoples or prognosticating for Judah a new régime of material prosperity, inspiring loyalty to king and law-book. It is doubtful whether without Jeremiah's teaching the idea of a new covenant could have been suggested, which showed its tendency when the Zadokite covenanters emigrated to Damascus, and its real strength when early Christianity went forth to establish a different type of religious communion. But the man himself who strove to free religion from the fetters of ceremonialism and the bondage to nationalism and put it on a foundation that could not be shaken by the fall of temples and of thrones, is likely to be remembered with honor when the pomp of empire and the savagery of war and the middle walls of national partition shall have passed away and given place to the nobler life of man's maturity.

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JEREMIAH, Lamentations of. A canonical book of the Old Testament. In the Greek Bible and its daughter versions, as well as in the Syriac and the Latin Vulgate, it is designated as the 'Lamentations of Jeremiah,' and it is also described in the Babylonian Talmud as 'Qinoth,' or 'Lamentations'; but in earlier times it was only referred to as 'Ekaḥ,' 'How!' and this has remained its title in the

Hebrew Bible. In the versions it follows the book of Jeremiah, while the tradition preserved in 'Baba bathra' 14b assigned it a position among the miscellaneous writings, or hagiographa, between Canticles and Daniel; when the group of five rolls was formed, it was generally placed between Ruth and Ecclesiastes. Since it was originally anonymous, as it has continued to be in the Hebrew, and the practice grew up of reading it on the 9th of Ab, the anniversary of the capture of Jerusalem by Nebuchadnezzar, it was kept separate in the Palestinian synagogue and not connected with the book of Jeremiah, and consequently could in course of time be united with other rolls also more or less regularly read in public on certain fast and feast days. There is no very marked difference between the masoretic text and the ancient versions, though these are often of considerable value in establishing the original. Only the late Aramaic Targum shows a strong tendency to expansion, not always in good taste. Origen apparently did not have before him the translations of Aquila and Theodotion, though there can be no doubt that this book was also rendered by them, and some readings of Aquila have indeed been recorded in manuscripts (cp. Field, 'Origenis Hexapla,' 1875).

That these lamentations are written in a poetic form is too obvious not to have been observed at all times; but the precise character of this form has only gradually been discerned. The fact that four of the five chapters employ the device of an acrostic invited comparison with the alphabetic psalms, and the peculiar circumstance that ii, iii and iv exhibit in one respect a different order of the letters, Pe preceding Ayin (P before O), was as puzzling to Jerome and Lyranus as to us. It can scarcely be due to a scribal error, as it is thrice repeated, or to forgetfulness on the part of the poet, as he set out deliberately to follow the alphabet, or to an esoteric motive so carefully hidden as to be of no didactic value, or to a different order in Babylonian Aramaic preferred by the Chaldean government, as Grotius thought. At a time when the letters had not yet been used for numerical purposes, a transposition of the two letters may have been in vogue in certain circles, since it seems to be found also in Ps. ix-x, and possibly in Ps. xxxiv. In i and ii each verse consists of three members, and the verses begin severally with the successive letters of the alphabet; in iii the verses consist of single members, and three verses in succession begin with the same letter, the chapter having thus 66 verses; in iv each verse has two members only, and v is not alphabetical, but has 22 verses. Maldonat (1611) found a prevalence of 12 syllables to the stichos, but also verses of 16 and 14. Lowth recognized an unusual poetic structure and supposed the verse to be dodecasyllabic; and more recently Bickell has also spoken of the dodecasyllabic metre. De Wette observed that each member of the verse has a caesura corresponding both with the accent and with the sense; Keil noticed that this caesura divides the verse into two unequal parts; Ley discerned that the second is shorter than the first, and designated this form as elegiac pentameter; Giesemann called it endecasyllabic verse, with the arsis after the third

syllable. Budde described most clearly the peculiar Qinoth metre: the verse may consist of one or more members, but each is divided by a caesura into two unequal parts, the second being shorter than the first. There is no doubt that this "limping metre" was frequently used in funeral dirges sung by "cunning women" at the wake of the dead, but it is not employed in David's elegy, and does not seem to have been reserved originally for elegiac poetry. It is the death-wail of Jerusalem, represented as a widowed and disgraced princess, that is heard in i, ii and iv; iii appears to be a poetic monologue of Israel, represented as a man, rather than an elegy, and v is not so much an elegy as a prayer, and is not in the elegiac metre, but has a peculiar assonance or rhyme, the same vowel or syllable being repeated.

In the Hebrew Bible neither title nor text contains any claim or direct indication of authorship. But the Greek version begins "after Israel was taken captive and Jerusalem laid waste, Jeremiah sat down and wept, and sang this elegy over Jerusalem." This was somewhat expanded in the Latin Vulgate; and the superscription in the Targum runs, "Jeremiah the prophet and chief priest said thus." The Babylonian Talmud also declares that Jeremiah wrote 'Lamentations.' It is interesting to observe that Bonaventura, Lyranus, Sanchez, Castro, Bellarmin, Lucas and Cornelius a Lapide attributed no canonical value to the introductions in the Greek and Latin texts. In 2 Chronicles xxxv, 25 Jeremiah is said to have sung an elegy over Josiah, according to custom chanted by singing men and women, and preserved in written form among the 'Lamentations.' It is by no means certain that the author referred to our present collection; nor would an interpretation of the extant threnodies as a funeral dirge over Josiah command much weight either by virtue of age, being centuries later than the prophet's time, or intrinsic probability. The decision rests wholly upon internal evidence. It was very natural to think of Jeremiah, the prophet who foretold and witnessed the destruction of temple, capital and state, as lamenting the fall of Zion; there was an unmistakable similarity to his style in some passages; he was a man of poetic temperament, and the peculiar metre had occasionally been employed by other prophets. Those who assumed that Jeremiah was the author assigned as the date of composition either 608, immediately after the death of Josiah, or 605, when Baruch's roll was written, or 586, in the months between the capture and destruction of Jerusalem, or the time between 586 and 570. The first view was maintained by Josephus, Jerome, Rhabanus Maurus, Bonaventura, Vatablus, Junius, Maldonat, Figueiro, Tarnovius, Calovius, Michaelis and Dathe; the second was suggested by Rashi, but rejected by Ibn Ezra; the third or fourth has been adopted by Theodoret, Procopius, Olympiodorus, Ghisler, Calmet, Blayney, Henderson, De Wette, Gerlach, Orelli, Keil, Bleek, Kaulen, Knabenbauer, Kay, Hermann von der Hardt in 1712 declared that he could not believe that Jeremiah, with his experience, had written a lamentation so diffuse and composed in such a literary fashion, but on account of the differences of style thought of Daniel, his three companions and Jehoiachin as the authors. The theory of a Jere-

mianic authorship was also abandoned by Augusti (1806), an anonymous writer in *Tübingsche Quartalschrift* (1819), Kalkar, Bunsen, who thought of Baruch as author, Ewald, Nöldeke, Kuenen, Schrader, Nägelsbach, Vatke, Wellhausen, Cornill, Löhr, Budde, Cheyne, Driver, Strack, Selbie, and many others.

They have urged important divergencies from the peculiarities of Jeremiah in language, style, and thought, and especially in the attitude toward the monarchy, the Egyptian alliance, the priesthood, and the temple cult. Thackeray called attention to the fact that Lamentations was not translated into Greek by either of the two men to whom we owe the version of the Prophecies. Thenius regarded ii and iv as coming from the prophet's pen, the remaining chapters as later; Fries thought that i-iii were Jeremianic, iv-v Maccabaeian. There is a tendency at present toward ascribing ii and iv to the same author and to the latter part of the Persian period, i and v to different authors at the end of this period, and iii to a poet living in the 3d century.

Reuss justly observed that the profound impression these lamentations make on the reader is due to the nature of the subject rather than to any literary qualities shown in its treatment. The interest that always attaches itself to misfortune excites our sympathy in the highest degree, and we can but admire the touching personification of Jerusalem as a widow seated by the wayside, reminding of the *Capta Judea* figured as a woman in mourning on the Titus arch, or of the people as a man of sorrows, recalling the suffering servant of Yahwe in the anonymous additions to Isaiah. This impression is somewhat weakened by the numerous repetitions, the monotonous length, the lack of logical development, and the restraints imposed by a mechanical form. It is probable that the elegies were produced for liturgical purposes in connection with the commemoration of the great calamity.

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JEREMIE, zhā-rā-mé', seaport, Haiti, on the Gulf of Gonaives. It lies on the northwest coast of Tiburon Peninsula, 120 miles west of Port-au-Prince. Jérémie has considerable local importance as a fishing center and the shipping point for a region producing coffee, cacao, sugarcane, hides, and such tropical fruits as bananas and mangoes. It has an airfield and is connected by road with Cayes (Les Cayes or Aux Cayes) and Port-au-Prince. Pop. (1950) 11,138.

JERER, jě-rěr' (also TUG JERER), river, Ethiopia. It rises in the mountains of northern Harar near Jijiga and flows intermittently south-

eastward past Warroh and Daggah Bur (Dagah-bur), entering the Fafan (Tug Fafan) after a course of about 180 miles. The Jerer and Fafan water the Ogaden, a semiarid plateau in Harar, 1,500 to 3,000 feet high, inhabited by Somali nomads who follow their herds of sheep, goats, and camels from place to place in search of pasture.

JERES DEL MARQUESADO, hā-rās' thēl mār-kā-sā'thō, town, Spain, in the Province of Granada. It lies on the northern slopes of the Sierra Nevada, eight miles south-southwest of Guadix. The surrounding country produces grains, chestnuts, and livestock. There are copper deposits nearby. Jeres del Marquesado has a parish church in Mudejar style. Pop. (1940) 2,672.

JEREZ, hā-rāth' (formerly XERES, in full JEREZ DE LA FRONTERA, hā-rāth' thā lā frōn-tā'rā, that is Jerez of the Frontier), city, Spain, in Cádiz Province, 13 miles northeast of Cádiz. It lies near the Guadalete River, on the Seville-Cádiz railroad. Jerez, the commercial center of a rich agricultural region, is a handsome city surrounded by vast vineyards, which supply grapes for the famous sherry wine produced here—"sherry" being a corruption of the city's name. Brandies are also made and the city manufactures bottles and barrels for the wine trade. Besides grapes, the surrounding country produces cereals, olives, vegetables, citrus fruits, and livestock.

The older buildings in Jerez include the Alcazar, surviving from the Moorish period but rebuilt by the Christians, the 15th century Church of Santiago, and the Gothic Church of San Miguel began in the 15th century, both largely restored or added to. The main sights of interest are the great bodegas, or wine cellars.

In ancient times Jerez was a Roman colony. It was taken by the Moors in 711 and after changing hands several times was reconquered in 1264 by Alfonso X of Castile and León. For more than two centuries thereafter it was a fortress city near the frontier with the Moors of Granada, whence its full name. Pop. (1940) 65,166.

JEREZ DE LOS CABALLEROS, hā-rāth thā lōs kā-vā-lyā'rōs (meaning Jerez of the Knights), commune, Spain, in Badajoz Province, 37 miles south-southeast of Badajoz. It lies 12 miles east of the Portuguese frontier on hills overlooking the river Ardila, a tributary of the Guadiana. Jerez de los Caballeros is an agricultural trade and processing center. Leading products are olive oil, meats, distilled liquors, cork, and wood products. There are iron and tungsten mines and marble quarries in the vicinity.

The town has some remnants of the Moorish occupation, but its usually accepted date of founding is 1229, when Alfonso IX of León captured the site from the Moors and founded the present town. It was enlarged by his son, Ferdinand III of Castile and León, who in 1232 presented it to the Knights Templar, whence the latter part of its name. Pop. (1940) 12,486.

JERICA, hā'rē-kā, town, Spain, in the Province of Castellón de la Plana, situated in an agricultural region 30 miles west southwest of Castellón de la Plana. The surrounding country

produces olives, wine grapes, and fruits. Burlap is manufactured. Jérica has the remains of medieval walls and a castle in ruins. Pop. (1940) 2,013.

JERICHAU, yĭ'rĕk-kou, Jens Adolph, Danish sculptor: b. Assens, April 7, 1816; d. Copenhagen, July 25, 1883. After studying at Copenhagen and under Albert Thorvaldsen at Rome, his first notable production was a frieze in the royal palace of Christiansborg near Copenhagen, its subject being the marriage of Alexander the Great and Roxana. Since 1849 he was professor at the Academy in Copenhagen. Among his works are the heroic group *Hercules and Hebe*, *Penelope*, *Adam and Eve after the Fall*, and a *Christ*.

His wife ELISABETH BAUMANN (1819-1881) was a genre painter of distinction, and their son HARALD ADOLF NIKOLAI JERICHAU (1851-1878) became a landscape painter.

JERICHO, jĕr'i-kō (Arabic ERIHA, ħ-rĕ'hā), village, Palestine, in the subdistrict of Jericho about 5 miles north of the Dead Sea and 14 miles east-northeast of Jerusalem. Altitude 820 feet below sea level. In past times several different cities of the same name have flourished and declined. About 1½ miles north of the modern village is a large mound known as Tell es Sultan in which excavations under Carl Watzinger (1907-1908) and John Garstang (1929-1936) revealed traces of a neolithic community of the 5th millennium B.C. and three cities from the bronze age (3000 to 1200 B.C.). The third of these was the Canaanite city captured by Joshua and destroyed about 1400 B.C. (Joshua 16). It was subsequently rebuilt by Hiel the Bethelite (I Kings 16).

After passing into various hands, Jericho was acquired by Herod the Great who built a new town south of the old site and provided a hippodrome, amphitheater, and palace. This city was destroyed by the Arabs and Persians and another Jericho was built by the Crusaders on the site where it now stands. With the departure of the Europeans, its importance declined until recently.

The modern village is on the road from Jerusalem to Amman in an agricultural area made fertile by "Elisha's Fountain," a powerful spring located on the west side of Tell es Sultan. Often visited by tourists, it has two hotels, a Greek and a Latin church, and a Russian monastery. In 1950, excavations west of the village uncovered the remains of a Hellenic fortress from the 2d century B.C. as well as the site of the city built by Herod.

Jericho became part of the British Mandate of Palestine in 1920 and after the Israel-Arab War (1948-1949), it was incorporated into the Hashemite Kingdom of Jordan. Pop., village (1944 est.) 1,693; subdistrict (1950 est.) 5,000.

JERITZA, yĕ'rĕ-tsā, Maria (real name MARIE JEDLITZKA, yĕ'dīts-ka), operatic soprano: b. Brünn, Austria, Oct. 6, 1887. After an extensive musical training in several instruments and vocal instruction from Professor Auspitzer of Brünn, she made her debut in 1910 as Elsa in *Lohengrin* at Olmutz, Austria. For ten she was a member of the Vienna State and in 1921 joined the Metropolitan Opera company of New York, making her debut in Eric

Korngold's *Die Tote Stadt*. She soon became one of the most popular operatic singers in the United States. Her biography *Sunlight and Song* was published in 1924.

JERKED BEEF, beef cut into strips of about an inch thick, and dried in the sun.

JEROBOAM I, the first king of Israel, the northern kingdom, who reigned from 933 to 912 B.C. Having conspired against Solomon, he was obliged to escape to Egypt, where he remained until the monarch's death. He then returned to lead an insurrection against Rehoboam, which ended in the formation of the kingdom of Israel, composed of the 10 revolted tribes. These tribes worshiped at Bethel and Dan, instead of going to Jerusalem.

JEROBOAM II, king of Israel. He was the son of Joash. He reigned from about 782 B.C. to 741 B.C. His reign was evidently an active one, as he was a skilful warrior, and regained territory which had been captured by the king of Aram in previous reigns. It was during Jeroboam's time that Hosea and Amos announced their prophecies.

JEROME, jĕ-rōm' or jĕr'ōm, Saint (Latin EUSEBIUS HIERONYMUS), one of the four Doctors of the Church recognized as such during the Middle Ages: b. Stridon, between Styria and Hungary, about 340; d. Bethlehem, Sept. 30, 420. His parents educated him with care in literary studies and he read the Greek and Roman classics at Rome under the famous grammarian Donatus. He did not escape uncontaminated by the licentiousness of the capital; but soon became inclined to the Christian faith. The catacombs and tombs of the martyrs first excited his devotion. His travels on the Rhine and in Gaul made him acquainted with several Christian preachers, and he was eventually baptized.

After a long residence at Aquileia Jerome went in 373 to Antioch in Syria, where he passed through a spiritual crisis and renounced pagan learning, and in 374 retired to the deserts of Chalcis. There he spent four years as a hermit in the severest mortifications and laborious studies. He left his solitude again to be ordained priest at Antioch, but soon after went to Constantinople to enjoy the instruction of Gregory Nazianzus. In Rome, where he became literary secretary to Pope Damasus, he made his appearance as a teacher. His expositions of the Holy Scriptures found favor with the Roman ladies, and many placed themselves under his spiritual direction. Marcella and Paula, rich patricians, are celebrated for the learned and ingenious theological epistles he wrote them, and for their rare monastic piety. Paula accompanied him to Palestine in 386, where he founded a convent at Bethlehem; here he remained till his death.

Jerome's writings show his active participation in the controversies of his day, and his letters give a very vivid idea of the condition of society at Rome. They are full of satiric strictures on the corrupt clergy, and are often as biting as Juvenal or Martial. Many of them are profoundly touching and full of fervent piety; others are lampoons traversed with vehement invective with the spirit of Plautinian ribaldry. His Biblical labors are highly valuable; his Latin version of the Old Testament from the original language is a marvelous achievement, and it may be said

that ecclesiastical Latin originated with Jerome's Vulgate. His principal claim to the gratitude of the Church is that he was the founder of Latin monasticism.

JEROME, Jerome Klapka, English humorist: b. Walsall, May 2, 1859; d. Northampton, June 14, 1927. He was at first a clerk in a railway office, afterward actor, schoolmaster and journalist by turns. After many discouragements he succeeded in making a popular hit with his book, *On the Stage—and Off* (1888), largely autobiographical. His *Idle Thoughts of an Idle Fellow* (1889) and *Three Men in a Boat* (1889) made him famous in America as well as at home. He edited the *Idler* with Robert Barr (q.v.) (1892–1897); *Today* (1892–1897); and published several successful comedies: *Sunset* (1888); *New Lamps for Old* (1890); *Miss Hobbs* (1900), and others. He is also author of *John Ingerfield* (1894); *Sketches in Lavender* (1897); *Observations of Henry* (1901); *Paul Kelter* (1902); *Susan in Search of a Husband* (1906); *The Passing of the Third Floor Back* (1907), the stage adaptation of which was most successfully produced by Sir Johnston Forbes-Robertson; *They and I* (1909); *The Master of Mrs. Childers* (1911); *Esther Castways* (1913); *The Great Gamble* (1914); *Poor Little Thing* (1914); *The Street of the Blank Wall* (1916); *Malvina of Brittany* (1917); *Anthony John* (1923); *My Life and Times* (1926).

JEROME, William Travers, American lawyer and politician: b. New York City, April 18, 1859; d. there, Feb. 13, 1934. Graduated from the Columbia Law School in 1884, four years later he was appointed assistant district attorney, in which position he saw much of the political corruption prevailing in the city. He was active in the Municipal League which opposed Tammany and in 1894 he became manager of the campaign which resulted in the election of Mayor Strong. In the same year the mayor appointed him judge of the Court of Special Sessions.

A courageous reformer, he was active in the Fusion campaign against Tammany and after conducting an unprecedented exposure of illegal police protection, he was elected, in 1902, district attorney of New York County. Immediately after his election he established headquarters in the East Side of New York, in order to be within easy reach of the people who most needed his assistance; here, in his official capacity, he was remarkably effective in breaking down the system of protection of vice and the maladministration of justice. Elected district attorney again in 1905 on an independent ticket, he conducted the prosecutions of Harry K. Thaw for the murder of Stanford White and he was retained as counsel for the State of New York in the subsequent legal proceedings. During his second term his great popularity declined due to lack of sufficient prosecutions and in 1909 he retired and practiced law privately for the rest of his life.

JEROME, town, Arizona, in Yavapai County, 88 miles north of Phoenix, on a federal highway, and the Verde Tunnel and Smelter Railroad, connecting with the Santa Fe, at an altitude of 5,435 feet. Located on the side of Mingus Mountain this mining town clings to a 30-degree slope 2,000 feet above the Verde Valley floor. Early in 1953 mining operations ceased.

Jerome was developed after the discovery of copper in the 1870's and was incorporated in 1899. The population varies greatly with the fortunes of the copper industry. In 1929 the town had 15,000 inhabitants. Pop. (1950) 1,233.

JEROME, city, Idaho, seat of Jerome County, 14 miles north of Twin Falls on the Union Pacific Railroad and state and federal highways. Altitude 3,708 feet. Jerome is the trading center for an irrigated agricultural region producing alfalfa, truck, fruits, grain, poultry, and honey. Cattle, sheep and swine are also raised. Its chief manufactures include dairy products, flour, glucose, wood products, cinder blocks, machinery, and metal products.

Laid out in 1907, Jerome was incorporated in the following year. A mayor and council administer its government. Pop. (1950) 4,523.

JEROME OF PRAGUE, Bohemian religious reformer: b. Prague, about 1360; d. there, May 30, 1416. He was educated at the universities of Prague, Paris, Oxford, Cologne and Heidelberg; and was in faith and sufferings the companion of the famous John Huss, whom he excelled in learning and eloquence, and to whom he was inferior only in moderation and prudence. His reputation for learning was so great that he was employed by Ladislaus II of Poland to organize the University of Cracow; and Sigismund of Hungary caused Jerome to preach before him in Buda.

Jerome took a zealous part at Prague in the contest of his friend Huss against the authorities, and not infrequently proceeded to violence, causing the monks who opposed him to be arrested, and even had one thrown into the Moldau. He publicly burned in 1411 the bull of the crusade against Ladislaus of Naples and the papal indulgences.

When Huss was imprisoned in Constance Jerome hastened to his defense, but on his attempt to return to Prague the Duke of Sulzbach caused him to be arrested in Hirschau and carried in chains to Constance. After an imprisonment of half a year he consented on Sept. 11, 1415 to recant the heresies with which he and Huss were charged. But this recantation did not deliver him, and after languishing a year, he solemnly retracted his recantation. On May 30 he was burned at the command of the council and his ashes thrown into the Rhine.

JERROLD, jër'old, Douglas William, English dramatist and humorist: b. London, Jan. 3, 1803; d. Kilburn Priory, near London, June 8, 1857. He was a midshipman in the navy 1813–1815, and then quitting the service, was bound apprentice to a printer in London. By hard study he made himself master of Latin and Italian, besides acquiring an extensive knowledge of general literature, and at first attempted dramatic criticism. The bent of his genius, however, lay mainly in the direction of dramatic writing. Numberless pieces were produced by him before he was 20, but the first which won decided popularity was *Black-eyed Susan*, presented for 300 successive nights at the Surrey Theatre in 1829. Fortunes were made out of the play; but the author only got \$300 for it. Among Jerrold's subsequent dramas were *The Rent-day*; *Nell Gwynne*; *The Housekeeper*; *Prisoner of War*; *Bubbles of a Day* and *Time Works Wonders*,

the last named one of the most successful comedies on the English stage.

Jerrold founded and conducted successively the *Illuminated Magazine* and *Douglas Jerrold's Shilling Magazine*, was a member of the literary staff of *Punch*, and in 1852 became editor of *Lloyd's Weekly Newspaper*. To this he contributed *Mrs. Caudle's Curtain Lectures*; *Punch's Letters to his Son*; and *The Story of a Feather*. He wrote several novels, among which are *The Mad Mode of Money* and *Chronicles of Clovenook* (1846). A selection of his essays, edited by his grandson, Walter Jerrold, appeared in 1903.

JERROLD, William Blanchard, English journalist and miscellaneous writer, eldest son of Douglas Jerrold (q.v.): b. London, Dec. 23, 1826; d. there, March 10, 1884. He succeeded his father in 1857 as editor of *Lloyd's Weekly Newspaper*, and as such strongly espoused the cause of the North in the American Civil War. Some of his leading articles on this subject were, by instruction of the American authorities, placarded and displayed in New York. He was the author of a very successful farce, *Cool as a Cucumber* (1851), and other plays. He also wrote *Swedish Sketches* (1852); *Life and Remains of Douglas Jerrold* (1859), and *Life of Napoleon III*, his greatest work, which was completed in 4 vols. between 1874 and 1882.

JERSEY, island, the largest, most important and most southerly of the Channel Islands, lying in the English Channel 15 miles west of the Normandy coast of France and 18 miles southeast of Guernsey. It is 12 miles long and from four to seven miles wide, and has an area of 44.9 square miles. Rugged and precipitous in the north, the interior is mostly table-land and is well-wooded. The principal town is Saint Helier. Pop. (1945) 19,398. The island is famous for a breed of cattle. Fruit and potatoes are largely grown, and are exported in enormous quantities.

The island was part of the old Norman provinces brought with the Conquest to the Crown of England. The speech of the farming population is a *patois* Norman French, but English is spoken everywhere, while the use of modern French and English is a bilingual feature of the courts and states governing body. From 1940 to 1945 the island was occupied by the Germans in World War II. Pop. (1951) 57,296.

JERSEY CATTLE. See **CATTLE**.

JERSEY CITY, city, New Jersey, seat of Hudson County on the peninsula between the Hackensack and the Hudson River, opposite lower New York City, with 11 miles of water frontage. It is served by the Pennsylvania; Lehigh Valley; Erie; New York, Susquehanna and Western; Central of New Jersey; Philadelphia and Reading; and Baltimore and Ohio railroads and is connected with New York City by four ferries to downtown points; by the Hudson and Manhattan Railroad (1910), and two vehicular tunnels, the Holland (1927) and the Lincoln (1942). At the heart of the city (Journal Square) are terminals for buses and inter-urban lines running to New York City, Newark and other points. A belt line, supervised by the Port of New York Authority, distributes freight from the above-named railroads and the New York Central, and the Delaware, Lackawanna

and Western railroads. At Greenville and Harborside Cove daily reports are made on passing freight, and refrigerator cars are iced. U.S. Highway 1 follows Tonnele Avenue in part of the city, and then mounts the Pulaski Skyway (3.4 miles long and 154 feet high) to Newark, thus avoiding traffic congestion and crossing the Hackensack River, the city's western limit.

With an altitude of 169 feet in its residential section, Jersey City is an integral part of New York City's industrial and port area; is the terminus of railroads, and its docks on the Hudson River and Upper New York Bay serve a number of ocean passenger steamship lines, freighters, and coasting and river vessels.

Although Jersey City is an important industrial and shipping center with fine residences and apartment houses, many of its citizens commute daily to their employment in New York City. In 1812 Robert Lewis Fulton built and operated a steam ferry connection with New York. With the 20th century the city grew increasingly important through the construction of the above-named tube and tunnel links with New York City.

Among Jersey City's striking buildings are the County and City Medical Center's seven units, 10 to 23 stories. Landmarks of early Dutch settlement are: Old Bergen Church (1842; foundation stones from buildings of 1680 and 1773); the Van Wagenen House (in part built 1660); a statue, by Massey Rhind, of Peter Stuyvesant. On the western edge of the city, and bordering the Hackensack River, is Lincoln Park (287 acres) with sunken garden, fountain, playgrounds, and a huge statue of Lincoln (1929). The dozen other parks include: Hamilton, Mary Benson, and Montgomery, nearer the Hudson River. The Public Library (1901), opposite Van Vorst Park, has the Otto Goetzke Gem Collection, also collections of coins, apparel, and household furniture. The State Department of Labor office is located at Journal Square. Unusual features of the public school system are: the A. Harry Moore School for Crippled Children, and the Special Service Bureau (1931) dealing with juvenile delinquency without arrests. Also located here are a state normal school and St. Peter's College (1872), conducted by the Society of Jesus. Annual observances of importance in the life of the community are the Holy Name Society parade in October, and the Lincoln Association dinner in February.

Due to its advantageous geographical situation Jersey City early developed commercial importance. Pierre Lorillard's snuff was made here in 1760. In the 1830's carpet mills were making 2,500 yards a week; crucible steel was produced here as soon as in Pittsburgh or Cincinnati. Car wheels, flint glass, and pottery were made in large quantities before the Civil War. The Joseph Dixon Crucible Company, which made graphite and stove polish in Salem, Mass., in 1827, soon moved here and is now best known for the manufacture of lead pencils and graphite crucibles. Colgate soaps and perfumes, first made in New York in 1806, crossed the river in 1847. This industry is now centered in the huge Colgate-Palmolive-Peet plant. The Colgate clock (dial 50 feet in diameter) is one of the landmarks of the river front. Other factory products are: packed meats, cheese, macaroni, cans, cigarettes, antiseptics, cosmetics, patent medicines, boilers, steel, radios and television apparatus.

The first settlers of Jersey City were the Dutch. In 1630 Michael Pauw, Burgomaster of Amsterdam, Holland, bought a tract of land on the West Side of the Hudson River from the Indians, which now constitutes the Harsimus, Paulus Hook, Communipaw and Pavonia sections. He turned it over to the Dutch West India Company in 1634 when they erected the first two houses on the West Shore of the Hudson River.

In the early days there was much conflict with the Indians. After about an 8-year peace brought about by Peter Stuyvesant, war broke out again in 1654 and the Indians drove all whites from the Jersey shore. In 1658 Peter Stuyvesant bought the land a second time and reconciled the Indians.

In 1662 Bergen, then a large settlement, had a school, a church, and a thrice-a-week ferry to New Amsterdam (New York). Two years later Charles II of England confiscated Bergen, and deeded it to Sir George Carteret and Lord John Berkeley, Carteret becoming Governor of New Jersey. In 1673 the Dutch recaptured New York, but it was restored to the British in 1674 by treaty, and peace ensued until the outbreak of the Revolutionary War when the British made an attack on what is now Jersey City and captured Paulus Hook fort. In 1779 a surprise attack by Major (Light Horse Harry) Lee placed the fort again in the hands of the American colonists.

Before the Civil War, Jersey City was a station on the Underground Railroad when slaves were smuggled and hidden in Erie Canal boats. On the completion of a New York-Philadelphia highway (1764) the New York ferry became important and in 1804, land and ferry rights were sold to promoters, the Associates of the New Jersey Company. Until 1834 New York's claim up to the Jersey low-water line hindered pier building. In that year the boundary between the two states was set downstream, except that Staten Island was conceded to New York. Even after the City of Jersey was chartered in 1820 it was a part of the Bergen township, and the Associates still had special powers, which ceased with the separate charter of Jersey City in 1838.

The Morris Canal terminus was opened here in 1836; the canal, running to Phillipsburg, N. J., and Easton, Pa., on the Delaware River, had previously terminated at Newark. In Taylor's Hotel, on the river front, Jay Gould and his Erie Railroad associates escaped New York process servers in 1868. Many corporations of other states established offices in Jersey City in the 1870's. In 1873 the city benefited by the end of Perth Amboy's long monopoly of rail traffic between New York and Philadelphia via the Camden and Amboy Railroads. At this time politics were bitter and bad, and between 1900 and 1910 attempts at reform were made by mayors Mark Fagan and Otto Wittpenn.

The city became the seat of Hudson County on its organization in 1840 and annexed Van Vorst in 1851, Bergen and Hudson City in 1869, Greenville in 1873. It adopted a commission government in 1913, when Frank Hague became director of public safety. After 1916 he was repeatedly elected mayor, and became the state leader of the Democratic Party until 1949 when his political machine suffered a severe defeat. An outstanding feature of the Hague administration was the creation of the city's fine Medical

Center and special Bureau for Juvenile Delinquency. Hague forbade public meetings of strikers, and expelled from the cities those distributing what were considered improper handbills, or trying to hold meetings without authorization. After a long legal battle the courts finally affirmed the right to distribute leaflets, display placards, and hold meetings in public places. The plaza of Journal Square was named (1925) for the *Jersey Journal* (1867); the name was officially changed to Veterans Square when the paper criticised Hague; but the railroads kept the old name and it is now called Journal Square. The largest foreign elements have been Italian, Irish, Polish, and German. Pop. (1940) 301,173; (1950) 299,017.

JERSEY SHORE, borough, Pennsylvania, in Lycoming County; on the Susquehanna River, 13 miles west of Williamsport, on the Pennsylvania and the New York Central railroads and state and federal highways. Altitude 603 feet. Jersey Shore's industries include the manufacture of silk, shirts, hosiery, cable, machines, automobile parts, and television aerials. There are railroad shops here.

Settled in 1785, and founded by New Jersey colonists, Jersey Shore was incorporated in 1826. It has a mayor and council form of government. Pop. (1940) 5,432; (1950) 5,595.

JERSEYVILLE, city, Illinois, seat of Jersey County, 60 miles southwest of Springfield on the Chicago, Springfield, and St. Louis and the Alton railroads. Jerseyville is the marketing and shipping center of a fertile agricultural region, and is especially known for the quantity of apples grown in the vicinity. Other crops are grain and general farm produce, and there are large stock farms. Manufactures include flour, seed cleaners, shoes, concrete and limestone products.

The city was platted in 1834, incorporated in 1855, and received its city charter in 1897. It has a commission form of government. Pop. (1940) 4,809; (1950) 5,792.

JERUSALEM, *jê-rôô'sâ-lêm* (Arabic *EL QUDS* *ESH SHERIF*, *âl kööts'âsh shâ-rêf'*; ancient *HIEROSOLYMA*, *hî-êr-ô-sô'i'-mâ*), city, Palestine, situated on a rocky ridge in the Judaean Hills, 35 miles southeast of Tel Aviv and 35 miles from the Mediterranean Sea. Altitude 2,439 feet. It is a railroad terminus and is served by highways dating from ancient times, which converge on the city from the four cardinal points of the compass.

Jerusalem comprises the old walled city, which contains the holy sites of 3 faiths—Jewish, Moslem, and Christian, and the New City, which was begun in 1860 outside the walls and has outgrown the old one in both population and area. After the Israel-Arab War in 1948, the Old City, with a population of 25,183 (1944 est.) was held by the Arabs and incorporated into the Hashemite Kingdom of Jordan, while the New City (pop. 1950 est., 110,000) became the capital of Israel and Jerusalem's economic center. It manufactures food products, pharmaceuticals, leather and glass products, radios, and cigarettes, and other industries include printing, handicrafts, and metal-working.

Jerusalem was built on several hills. "This group of hills, now represented by a nearly level plateau, as the inner valleys have been filled up

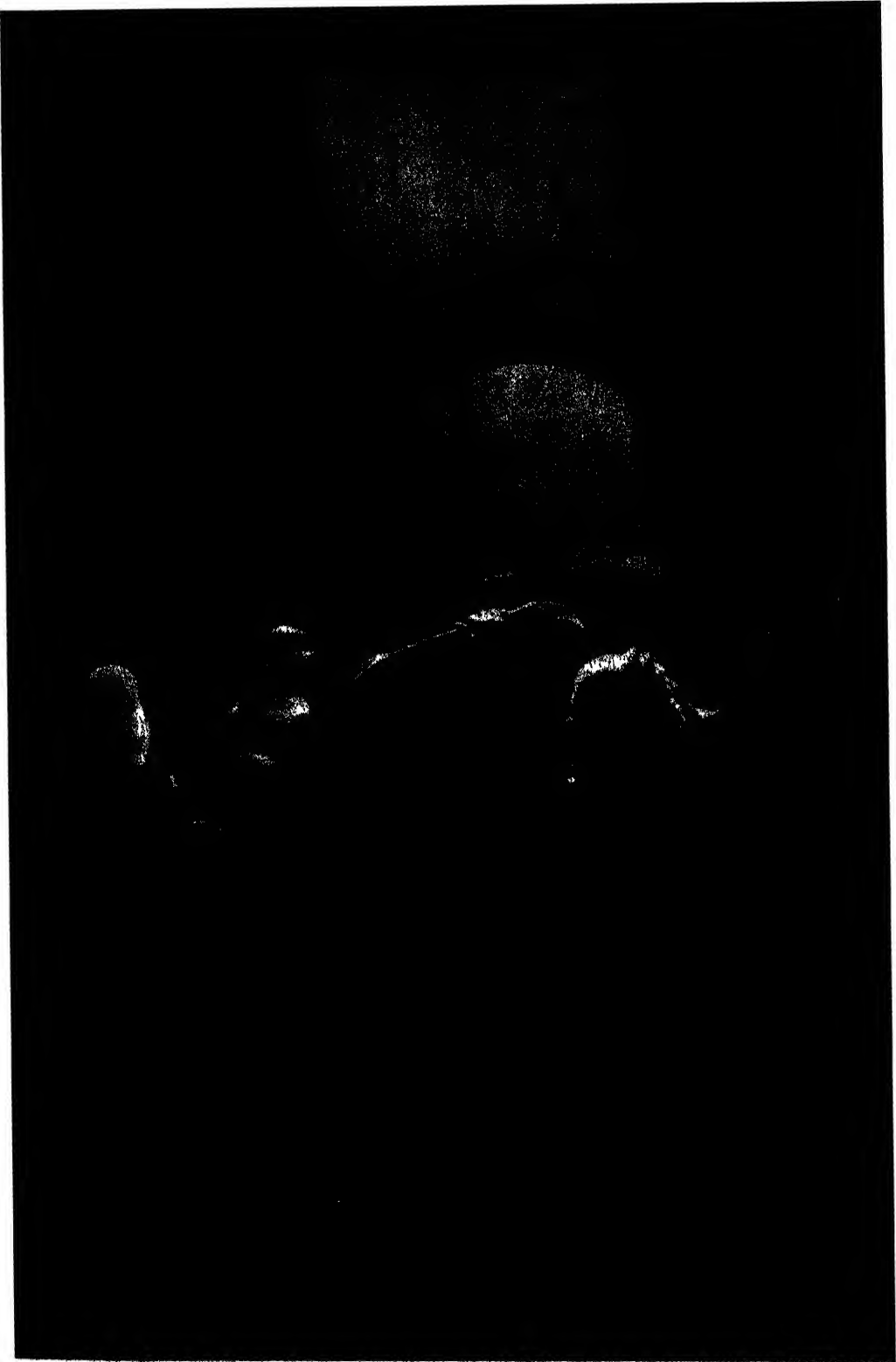
with the accumulations of ages, forms an outlying spur of the mountains of Judea, and has a general direction of north and south. On the north side the ground is comparatively level; two valleys, on the west, south and east, encircle the site, and gradually getting deeper, unite near the Pool of Siloam, forming one valley which runs down to the Dead Sea." The modern city, much less extensive than the old in its best estate, is a rough quadrangle surrounded by a very irregular wall, built in the 16th century by Solyman I, on the lines of the Crusaders' fortifications. It has nominally eight gates, two on each side; the Jaffa and Abd-ul-Hamid on the west (the latter very recent), the Zion and Dung on the south, the Golden (closed up) and Saint Stephen's on the east, and the Damascus and Herod's on the north. The city is unevenly divided, by the main street running from the Damascus gate south to near the Zion gate, and that running east from the Jaffa gate to the Haram-esh-sherif, into four "quarters" in which the great religious divisions are segregated: the Mohammedan, much the largest, on the northeast, adjoining the original holy places; the Christian next, on the northwest, where is the Church of the Holy Sepulchre; the Armenian on the southwest; the Jewish on the southeast. The streets are crooked, narrow, ill-made, and dirty, and the city has few except historical attractions; the stream of tourists, however, has developed civilized conveniences such as hotels, banks, mercantile establishments, etc. Several Jewish colonies have been settled in the environs; and since 1858 a quarter has grown up outside the walls on the northwest, approached by the Jaffa Gate, and containing consulates, Christian churches, schools, charitable institutions, etc., but not more sanitary than the old. The city prior to British occupation in 1917 was the capital of an independent sanjak, subject to the government at Constantinople. It has an executive and a town council with representation of the great religious divisions. It is the seat of Roman Catholic, Greek Catholic and Armenian patriarchs; the smaller eastern churches have resident bishops; and till 1887 a joint Protestant bishopric was supported by England and Prussia, with alternate bishops, but on the death of the then incumbent Prussia withdrew from the arrangement, and England continued it alone. Pop. in 1939 about 129,800, made up of Mohammedans, Christians and approximately 79,000 Jews. In addition, there is a considerable floating population of pilgrims to the sacred sites.

The intense historical interest is centred on memorials of the time or localities of David and Solomon, and of the life and death of Christ. Of the former, the supreme interest is in the Haram-esh-Sherif, the site of the temple, and palace of Solomon and of the later temples. It is a walled area about 527x330 yards, with an elevated platform in the centre reached by steps; in the centre is the beautiful Kubbet es-Sakhra, or Dome of the Rock—a wooden octagon with sides of 66 feet 7 inches, decorated on the outside with marble and porcelain tiles, each of the four sides which face the cardinal points having a square gate surmounted by a vaulted arch. Just east of this is the Chain Dome, or David's Place of Judgment. Other domes of interest

are near; but the next most notable structure in the Haram is the mosque El Aksa, at the south end. Within it are also a beautiful 15th century fountain, a pulpit of the same date, a modern mosque called the Throne of Solomon, and the fortress of Antonia. Of the Christian monuments, the most noteworthy is the Church of the Holy Sepulchre, in the Christian quarter, originally built by Constantine the Great over the traditional site of the Crucifixion. (See HOLY SEPULCHRE). There is a rotunda, with a dome 65 feet in diameter, above a small Chapel of the Sepulchre; a number of church buildings, said to include the site of Golgotha or Calvary; and 22 chapels. The Via Dolorosa, along which Jesus is said to have carried the cross to Calvary, follows the present street Tarik Bab Sitti Maryam from Saint Stephen's Gate. Several modern churches and other institutions are also worth visiting; but the thronging Scriptural associations—besides those mentioned above, the Mount of Olives, the Pool of Bethesda, the Vale of Hinnom, etc.—overshadow all else.

Topography and History.—About a mile north of Jerusalem, the main north and south watershed ridge of Palestine turns to the west; while a spur called Olivet, having three pinnacles, runs first southeast one and one-half miles, and then south one and one-fourth miles. The space between the two is occupied by a plateau sloping southeastward, and separated on each side from the bounding ridges by a ravine 300 to 400 feet deep, with steep and often precipitous sides. The eastern ravine, separating it from Olivet, is the "brook" Kedron or Kidron (Cedron), which was always a dry bed; the western is the Wady el-Rabâhi (probably the vale of Hinnom), which after skirting it on the west, turns east along the southern scarp of the plateau and joins the Kedron. Through this plateau from north to south runs a broader and much less deep and precipitous valley, the Tyropœon ("cheese-makers' place") 100 to 150 feet deep, thus dividing it into two uneven sections: the east ridge is continuous, and its northern part was the first occupied; the western part, the "new city," is divided by a lateral branch of the Tyropœon into two summits, a north and a south, connected by a narrow saddle separating also Tyropœon from el-Rabâhi. The general height may be stated as about 2,500 feet; the eastern ridge is 2,440 feet at the north, and descends southward; the western north summit is 2,490 feet, south summit 2,520. The accumulation of the rubbish of 3,000 years, however, has greatly modified the contours of the hills and ravines, obliterating some minor ones altogether. The average depth over the rock levels is 30 to 40 feet, and in the valleys 70, in one case reaching 120.

This plateau, surrounded on three sides by steeply scarped bluffs and crested with hills, was a natural fortress; but it had two defects—it commanded nothing in particular, and its water-supply (one spring intermitting for hours or even a day or two, and that at the foot of a bluff) was very scanty. Probably at the first, as many times since, army after army marched around it, and left it untouched as of too little military significance. We first hear of it on the Tel el-Amarna tablets (about 1400 B.C.) when it is seemingly a little hill fort with a small gar-



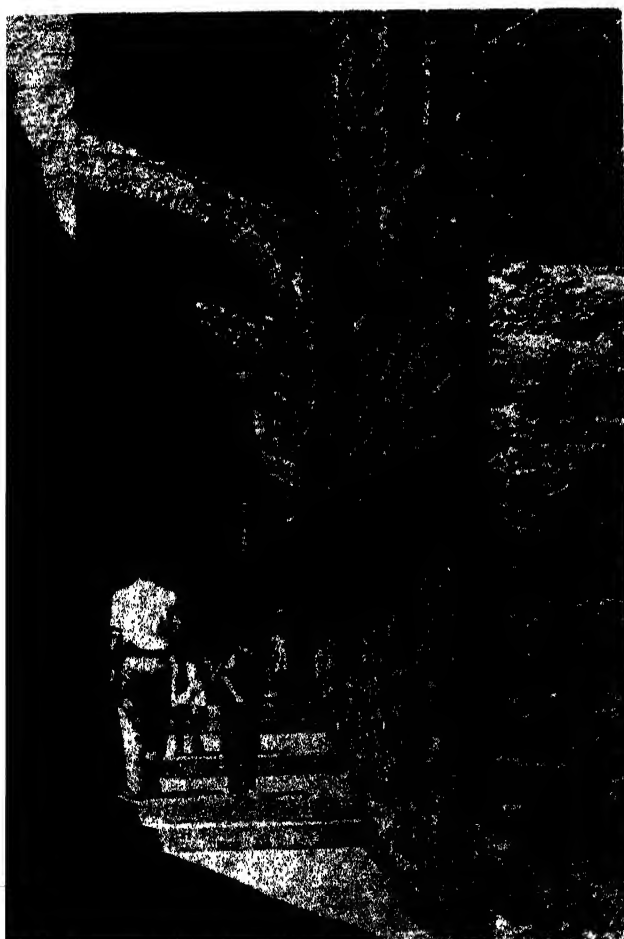
Herbert S. Connors

JERUSALEM

that part of Jerusalem known as the Old City, now in the hands of the Arabs, is this banner, where merchants, beggars and veiled women carry their market baskets on their heads. The Old City is that part of Jerusalem founded by David.



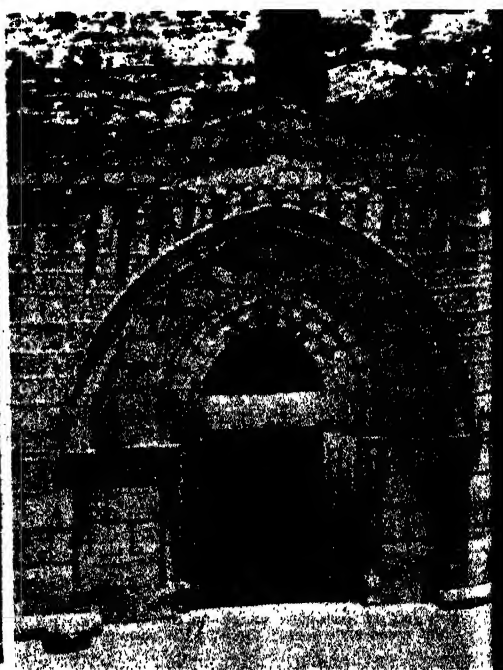
Above: Catholic pilgrims, re-enacting the events of stream down from the Mount of Olives on their way into Jerusalem. The church at the right is probably on or site of the Garden of Gethsemane.



Left: The Via Dolorosa, probably the street along which carried His cross to Calvary. Streets in the Old City are too for vehicles, which are forbidden.

Below: It has long been believed that under this church tomb in which the body of the Virgin was laid. It lies out walls of the Old City.

(Above) Ewing Galloway; (below right and left) Marie J. Mattson for Star



rison, possibly with a village also, and the capital of the "land of Jerusalem," apparently a small territory along the watershed. The king, Abd-Khiba, is a vassal of the king of Egypt, and begging assistance against the Khabiri (Hebrews?). Later it is a minor "Jebusite" citadel: Hebron, Bethlehem, Bethel, Gibeah, Jericho, are all more important. But when David undertook to form a consolidated Hebrew kingdom, Jerusalem had the transcendent merit that it lay on the border between Judah and the northern tribes, not historically identified with either; it was also fairly on the central line of communication, and convenient for action against the Philistines and the desert tribes at once. He made terms with the Jebusites and occupied the hill-fort of Zion on Ophel, near the only available water-supply. Possibly a village grew up on the eastern slope of the hill; but it was small, for the whole levy of Palestine was but 30,000 men (2 Sam. vi, 1), and other places held the trade. Solomon greatly increased the size of the town, and built a stone temple for Yahweh and a great palace. Under Rehoboam the place was captured by Shishak of Egypt; under Amaziah by Jehoash, and its walls partly leveled. During the palmy times of the northern kingdom it was held of small account except by the Judahites: it was only one of many places of pilgrimage down to Hezekiah's time, and the northern prophets ignore it and speak of Bethel, Gilgal and Beersheba. With the fall of its northern neighbor, for the moment its importance and wealth increased; it became the one shrine which had never been defiled with the rites of the native religions, the centre of Jewish religious life, the one place where sacrifice might be offered. In the later days of the monarchy the town spread beyond the east ridge into the Tyropœon; a second town and a trading quarter grew up. For a long time after its destruction by Nebuchadnezzar in 586 the history is scant and dubious. It suffered heavily under the Persian Empire; under Artaxerxes Ochus the temple *may* have been destroyed. Alexander's sacrificing in the temple is mythical; and in 320, Appian says, Ptolemy Soter destroyed the city. Then there was a time of peace and prosperity, culminating in the high-priesthood of Simon II (219-199 B.C.); after a series of struggles between the Ptolemies and the Seleucids, in which the former took and garrisoned the place and the Jews helped drive out the garrison, the Seleucids obtained Palestine by treaty in 197. When Antiochus Epiphanes undertook to Hellenize Palestine in 169, he took the city, destroyed the walls, plundered the temple, and erected an altar to Zeus in place of that to Yahweh. Judas Macabæus rebuilt the temple and the walls; again razed by the Greeks, they were again rebuilt by Jonathan. Under the Hasmonæan dynasty it extended to the western ridge; there was a new palace and royal quarter of great splendor; the city became the metropolis of the Jewish world, and the one great pilgrim shrine. Then it became tributary to Rome, but at least still a kingdom governed by its own sovereigns; such it was when Jesus was born; but it shortly after became a province governed by a Roman procurator. The Roman system of repression and Jewish national feeling were brought sharply into conflict, aside from any actual mis-

government; and a grand national revolt took place, which in 66 A.D. gained possession of Jerusalem. Vespasian was appointed to repress it; and in 70 A.D. his son Titus, after one of the most frightful sieges in history, with unimaginable horrors, took it, burned the temple, and leveled the city to the ground. Josephus says the city's population was 1,000,000, and Tacitus (probably from Josephus) 600,000. Both are absurd, those of Josephus are Oriental in their exaggeration. From 30,000 to a maximum 45,000 may be estimated. It remained a ruin for many years. In 131 Hadrian visited the site and ordered the rebuilding of the city, apprehending a restoration of pagan worship, the Jews broke out in rebellion under Bar-Cochba; and Hadrian, not caring to set up a new centre of Jewish propaganda, made it a Roman colony called *Ælia Capitolina*, and forbade Jews to enter it on pain of death. Thence till the time of Constantine nothing is known of it; except as a Jewish shrine it was nothing. When the empire became Christian, Constantine's mother, Helena, induced him to cherish the seat of Christ's ministry and death; and he built the Church of the Holy Sepulchre. Pilgrims flocked to Jerusalem from all parts, and it became the shrine of Christendom. Captured by Khosru of Persia in 614, it was retaken by Heraclius in 628; but in 637 was taken by the Moslems under the caliph Omar. The line of Arabian caliphs of different dynasties was succeeded by the Seljuk Turks. The Christians were oppressed, the sacred places defiled; to crown all, the overland caravan trade was cut off. Jerusalem was taken by Godfrey of Bouillon in 1099, becoming the capital of a Christian monarchy. Saladin recaptured the city in 1187, and from then until the World War it remained in Mohammedan possession.

In December, 1917, it surrendered after a short siege to British troops under General Sir E. H. Allenby. Later it was made the capital of the Mandate of Palestine and this it remains today. The city has been on occasion the scene of considerable strife between Jews and Arabs since it came under the mandate. In 1929, for example, there was much rioting and bloodshed because the Jews claimed certain rights at the Wailing Wall (all that is left of the historic Jewish Temple) which, it was declared, the Arabs refused to give them. An appreciable increase of Jewish immigration to the city in recent years (some 7,000 arrived in 1929), the settlements by Jews on land belonging to the Jewish National Fund, the great activity of the Zionists, and the founding of the Hebrew University on Mount Scopus are events upon which the Arabs have not looked with kindly eyes. The new library building at Mount Scopus was inaugurated on 1 April 1925, and with its completion today it can house over 200,000 volumes, an evidence of the laudable ambitions of the Jews for the future growth of their great university.

Bibliography.—Stoyanovsky, J., 'The Mandate for Palestine' (1928); Ashbee, C. R., 'Jerusalem' (1924); Reynolds-Ball, E., 'A Guide to Jerusalem,' (1925); Warren and Conder's 'Jerusalem.' See, also, quarterly statements of the Palestine Exploration Fund.

JERUSALEM, Councils or Synods of, a number of councils held at Jerusalem after the meeting of the Apostles (Acts xv), of which

six are of prime importance. (1) The first ecclesiastical council, believed to have been held about 47 and mentioned in Acts xv, discussed the extent to which Judaic law should be followed in the Christian Church. The council gave three decisions: (a) abstinence from meats which had been offered to idols; (b) from blood and strangled things; (c) from fornication. (2) In 335 an attempt was made to heal the differences in the church at the time of the meeting of the bishops to consecrate the church of the Holy Sepulchre, and Arius was restored to fellowship and permitted to return to Alexandria. (3) In 349 Maximus, bishop of Jerusalem, and 60 other bishops met upon the return of Athanasius to Alexandria, rescinded the decree published against him and dispatched a synodal letter to the church in Alexandria. (4) In 399, held in response to an appeal from Theophilus of Alexandria to sustain the decree against the Origenists; the decree was confirmed and the resolution to hold no communion with those who denied the equality of the Father and the Son was passed. (5) In 553 the acts of the fifth Ecumenical Council of Constantinople were received by all the bishops of Palestine except Alexander of Abilene, who, being absent, was deposed. (6) In 1672 the most notable council was held, convened by Dositheus, patriarch of Jerusalem, with the object of eradicating Calvinism. It was attended by 53 prelates, six metropolitans and other officers and members of the church. It rejected unconditional predestination and justification by faith alone, and advocated the Roman Catholic doctrines of transubstantiation and of purgatory. Its decisions were the cause of considerable trouble in the Eastern church, charges of leanings toward Romanism being made, although the council had specifically pronounced against the Roman Catholic affirmation that the Holy Ghost proceeds from both Father and Son. The pronouncements of this council are regarded on the whole as one of the most important expressions of faith of the Eastern church.

JERUSALEM CHAMBER, a large hall in the deanery of Westminster, noted for its historical associations. It was built for Abbot Littleington, 1376-86. Henry IV died in it, 20 March 1413. It was the meeting place of the Westminster Assembly in 1643, also of the company of revisers of the New Testament of 1881. The Old Testament Company also met there part of the time. Before they were buried in Westminster Abbey, Addison (1719) and Congreve (1728) lay in state in the hall. The name of the hall was probably given because of the tapestries on the walls depicting scenes from Jerusalem.

JERUSALEM CHERRY, an ornamental house plant of the nightshade family, *solanum capsicastrum* and *solanum pseudo-capsicum*, of which the latter species is a native of Madeira. The plant attains a height of from one to three feet with oblanceolate leaves borne on short stems and small white flowers followed by bright red or yellow berries the size and appearance of cherries. It is readily propagated by either seed or cuttings. It is sometimes called "winter cherry," and its fruit is inedible.

JERUSALEM CREED, the confession of faith generally believed to have been taught by Saint Cyril of Jerusalem in his catechetical lec-

tures about 347 A.D., based upon the Nicene creed of 325 A.D. and amplified by Cyril upon his return from exile in 362 A.D. It reads: "I believe in one God, the Father Almighty, maker of heaven and earth, and of all things visible and invisible; and in one Lord Jesus Christ, the only begotten Son of God, begotten by the Father before all worlds, very God, by whom all things were made, who was incarnate and made man, crucified and buried, and the third day ascended into the heavens, and sat down at the right hand of the Father; and is coming to judge quick and dead. And in the Holy Ghost, the paraclete, who spake by the prophets; and in one baptism for the remission of sins; and in one holy catholic church; and resurrection of the flesh; and in life everlasting." It forms the basis of the creed adopted by the council of Constantinople, 381 A.D. Consult Schaff, Dr. P., 'The Creeds of Christendom' (3 vols., 1877); 'The Library of the Fathers' (Vol. II, Oxford translation, 1832); Riddle, 'Christian Antiquities'; Curtis, 'Creeds and Confessions' (1911).

JERUSALEM DELIVERED. In dealing with the 'Jerusalem Delivered' (1581), critics have the advantage of knowing from Tasso's dialogues and from his later version of the poem ('Jerusalem Regained,' 1593), the considerations which determined for the author its content and its form. In his critical theory "plot" and "ornament" are basic and distinct categories; while prominent before his mind were the successful examples of Ariosto, Boiardo and Pulci. These chivalric romances were loose agglomerations of episodes related but tenuously to a central theme. Tasso consciously strove to build a poem of the same kind that would conform however, as regards the category of plot, to the canons of Aristotle's 'Poetics' as modified by himself. It would have a unified theme to constitute a major interest. To this the episodic would be subject in the category of ornament. As an Italian of his time, Tasso conceived of religion, rather than patriotism as the subject of most lasting interest (the traditional motive of the ancient epic). But the imaginative tale, whether patriotic or religious, must, to convey its message to the reader, carry the conviction of historical narrative (doctrine of *verisimilitude*). Actual history does not leave room for the distinctive act of the poet: invention. He must select accordingly a subject which, recognized as history, will be but so vaguely known in detail that the fictitious will be accepted as true. The Turkish menace was the terror of Tasso's time; and one of the poetic commonplaces was to incite Christian Europe to a new Crusade. The subject of the holy wars thus imposed itself upon him for reasons of piety, present interest, and theoretical suitability. He chose the conquest of Jerusalem by Geoffrey of Bouillon (First Crusade, A.D. 1096-99); its epic motive was to be the triumph of the just man through God over the wiles of sin and the obstacles set by evil fortune.

The operation of Tasso's pious purpose and of his critical theory can be traced through the 'Jerusalem Delivered' in the parts that are worthless. The theme that gives his much sought logical unity is mechanical and unimaginative. His just man, Geoffrey, is a lifeless

JERUSALEM OAK—JERUSALEM PLANK ROAD

abstraction, his Divinity a dull magician working in roundabout ways to produce miracles not worth the trouble. The preoccupation of the moral purpose contributes some allegory that is shallow if geometrically logical. The episodes gain nothing from their dependence on the plot; while the theory of ornament as applied to style carries metaphor-making to extremes that have interest only historically as setting a fashion henceforth current in the most decadent period of Italian letters. So far as the 'Jerusalem Delivered' is a regular epic, it is dead. It lives only as a fantastic romance that gave free play to Tasso's supreme genius in the moods associated with the elegy and the idyll.

As the religious spirit overrides Tasso's biography so it overrides the strong passions of his soul. He felt intensely the beauty of life; he was deeply attached to the exterior world; he knew the inspirations of love, the allurements of sensuous pleasure. He never surmounted entirely the thought of death; rather he knows to the full what delusion means, the anguish of separation from loved objects and people, solitude, helplessness, despair. So he knows also the value of the Christian promise; and paying submissive tribute to the anthropomorphic aspects of dogma, he rises through faith to a vivid realization of true Christian experience. These are the elements of the lyric exaltation that has made some of his episodes immortal. In *Sophronia* he incarnates a mood of religious rapture indifferent to death and to worldly love, so completely does the martyr feel herself safe with God; whereas her lover, *Olindo*, snatches at the last consolations of life, rebelling in despair at the thought of what death makes forever impossible. Death and love are once more set in contrast in the death and conversion of *Clorinda*. Here is a violent sob of farewell accentuated by the bitterness of avoidable error—the great motive that romanticism has always played on to rouse extreme effects of pathos. But love struggles over the grave to console with the softening and sweetening hope in the Resurrection. *Clorinda's* mute benediction on *Tancred* is one of the most moving touches in all poetry. *Erminia's* flight to the Christian camp over a moonlit solitude is a complex experience of humility, surrender, devotion, expressing in words filled with beautiful Vergilian echoes, a suffocated lament for unrealizable yearnings. In the story of 'Armida' the idyllic sweetness, the sensuous suppressions of the 'Aminta' return, to suggest behind a graceful veil of modesty the fascination of sex allurements.

Tasso's orthodoxy in religion and in critical theory, his development of ingenuity in metaphor, his impeccable Petrarchism, his urbane preciousness, his skill in classic allusion, his elegant fancy, conquered the aristocratic circles of the next two centuries in Europe, when everyone ranked him as superior to Petrarch and Dante—this, in spite of a fatuous pedantic quarrel over the theory of the epic which embittered the poet's later years and lasted for several decades after his death. The Romantic movement of the 19th century, rejecting most of the critical tradition from which Tasso drew, justly relegated him to a more modest position in the literary hierarchy of

Italy. In virtue of his storytelling gift, the common people of all regions of that country have accorded to the *Jerusalem Delivered* a popularity, as a code book of rustic chivalry, second only to the legends of Roland and Charlemagne still so current in the South. The poem endures in literature as the best expression of the ideals and mental traits of the Italian Counter Reformation and as the greatest product of the preceptual aesthetics of the Renaissance. In the world of music it has achieved immortality as the basis of the opera *Armide*, by Christoph W. Gluck (q.v.).

ARTHUR LIVINGSTON.

JERUSALEM OAK. See GOOSEFOOT.

JERUSALEM PLANK ROAD, Engagement near. After the battle of Cold Harbor (q.v.), 1-3 June 1864, General Grant crossed to the south of James River, made unsuccessful assaults upon the Petersburg intrenchments, 15-18 June, and then determined to invest the city partially by a line of works toward the South Side Railroad, and by the evening of the 21st the Fifth corps rested its left on the Jerusalem Plank Road. The Second corps, followed by the Sixth, was moved across the road with the intention of seizing the Weldon Railroad at a point near Globe Tavern next day, and with the expectation of seizing also the South Side Railroad, and cutting Lee's communication with Lynchburg. At night the Sixth corps was in rear of the left of the Second. The orders for the 22d were that the Fifth corps should hold fast its position in front of the Confederate intrenchments, while the Second and Sixth swung to the right, and forward on its left, each division intrenching as it came into line. In the movement the corps commanders at first were directed to keep up connection, then they were ordered to move without regard to each other, each taking care of his own flanks. The Second and Sixth corps moved chiefly through densely wooded thickets; the Second on the right and near the Confederate works; the Sixth at right angles to the Second toward the Weldon Railroad. Gibbon's division of the Second corps had swung in on the left of the Fifth and intrenched, Mott's division was intrenching, and Barlow's division, on the left, was not yet in position, when the last named was attacked. Gen. A. P. Hill had been sent down the Weldon Railroad to oppose Meade's attempt upon it. He had the three divisions of Wilcox, Mahone and Bushrod Johnson. Leaving Wilcox to oppose the Sixth corps, which had not come up on the left of the Second, Hill, about 3 p.m., passed Mahone and Johnson through the opening between the two corps and struck Barlow in flank and rear, driving him back in confusion to the position from which he had advanced in the morning, and taking many prisoners. Mott's division, on Barlow's right, fell back precipitately, and then Hill struck Gibbon's left brigade in front, flank and rear, causing it to give way and abandon a battery of four guns. So sudden and unexpected was this attack upon Gibbon that the greater part of several regiments were captured with their colors. Gibbon made an unsuccessful effort to recover the lost portion of his line. Hill returned to his intrenchments, leaving some force on the railroad, and toward evening the Second corps was thrown forward; but it was

not until next morning that it occupied the ground from which it had been driven, the Sixth corps, forming on its left, thrown back facing the Weldon Railroad, and about a mile from it. The Union loss on the 22d, confined almost entirely to the Second corps, was nearly 2,000, of whom about 1,700 were prisoners. The Confederate loss is unknown. Consult 'War of Rebellion—Official Records' (Vol. XL, Washington 1889-1901); Humphreys, A. A., 'The Virginia Campaign of 1864-65' (New York 1883); Walker, F. A., 'History of the Second Army Corps' (New York 1886).

JERVIS, jēr'vis or jār'vis, John, EARL OF ST. VINCENT, British admiral: b. Meadford, Staffordshire, 9 Jan. 1735; d. 14 March 1823. He entered the navy 4 Jan. 1749, was promoted lieutenant 19 Feb. 1755, took part in the capture of Quebec, and in 1759 was appointed to the command of the sloop *Scorpion*. He became post-captain in 1760, and in 1769-72 he commanded the *Alarm*, stationed in Mediterranean waters. He was then put on half-pay and traveled extensively in Europe and European waters, making many valuable notes on naval affairs. During the American Revolution he commanded the 80-gun *Foudroyant*, participated in the battle of Ushant on 27 July 1778, in the relief of Gibraltar, and on 19 April 1782 he captured the French man-of-war *Pégase*, for which achievement he was made K.B. He was sent to Parliament for Launceston in 1783 and for Yarmouth in 1784. He became vice-admiral in 1793 and until 1795 commanded the naval operations against the French in the West Indies. He was appointed to the command of the Mediterranean fleet in 1795, receiving rank as admiral, and successfully maintained the blockade of Toulon. Upon the alliance of Spain and France and the occupation of Italy by the French he was obliged to withdraw his fleet to the Atlantic, and on 14 Feb. 1797 he engaged the Spanish fleet off Saint Vincent at heavy odds and completely routed it. For this victory he was granted his earldom and a pension of £3,000. In 1797, during the general mutinies at Spithead and Nore, his prompt measures and the high state of discipline in which he maintained his command were successful in keeping his ships free from the trouble. He was often bitterly criticized as a disciplinarian, his firmness extending to his officers' conduct as well as that of the sailors; but Lord Nelson, whose methods were wholly different, acknowledged the efficiency of Lord St. Vincent's measures and the necessity for them at the time. Nelson's victory at the battle of the Nile was largely due to the high discipline which St. Vincent had inaugurated. He resigned his command because of ill health in 1799 and upon return to duty in 1800 he took command of the Channel fleet, where he instituted his usual disciplinary methods to the great indignation of his officers and crews, but with salutary results so far as the efficiency of the fleet was concerned, as he was able to maintain the blockade of Brest for 121 days. He was First Lord of the Admiralty in 1801-03 and was fearlessly dictatorial in the institution of reforms at the dockyards, but was opposed by Pitt on the grounds that he failed to see the necessity of preparing the fleet for war. He refused the command of the Channel fleet under Pitt's ministry in 1803, assumed it after

Pitt's death in 1806, but asked to be relieved in 1807. The rank of admiral of the fleet was conferred upon him by George IV at the time of his coronation. Lord St. Vincent ranks high among the commanders of his 'time, through whom the supremacy of British naval power was established. The biographies by Tucker (2 vols., 1844) and Brenton (1838) are not considered authoritative in the best sense. Consult Laughton, 'From Howard to Nelson' (1899); Mahan, A. T., 'Types of Naval Heroes' (1901); Anson, 'Life of John Jervis, Admiral Lord St. Vincent' (1913).

JERVOIS, jēr'vis, SIR William Francis Drummond, British general and engineer: b. Cowes, Isle of Wight, 10 Sept. 1821; d. Bitterne, Hampshire, 16 Aug. 1897. He was educated at the Royal Military Academy at Woolwich and was commissioned second lieutenant in the Royal Engineers 19 March 1839. He was ordered to the Cape of Good Hope in 1841, where he remained on engineering duty and in active service against the Boers and Kaffirs until 1848. Returning to England he continued in the engineering service. He was appointed assistant inspector-general of fortifications at the War Office 7 April 1856, and in 1857 became in addition secretary to the defense committee. He prepared the plans for the defense of London in case of invasion during the period when war with France was threatened in 1857, and in 1859 drafted a report and recommendations for defenses calling for an appropriation of £7,000,000, which was granted by Parliament. He was appointed director of works for fortifications in 1862, and in 1863 made an official tour of inspection of the fortifications of Canada and Bermuda, also visiting those of eastern United States. He afterward inspected the progress of fortifications in all parts of the British Empire, and upon the completion of the work in 1874 it was found that he had carried out the plans submitted to Parliament and kept within the £7,460,000 appropriation by a margin of £40,000. He was governor of the Straits Settlements in 1875-77, of South Australia in 1877-82, retiring from military service with the rank of lieutenant-general 7 April 1882. He served as governor of New Zealand in 1882-89, when he returned to England with an enviable record for both ability and popularity. He served on the consultative committee on coast defense duties under Edward Stanhope in 1890. He was a member of the Royal Society, a knight commander of the Orders of Saint George and Saint Michael, and author of numerous valuable reports on problems of defense.

JESHURUN is a tender and affectionate poetical term applied to the people of Israel occurring four times in the Old Testament. It is variously interpreted. Kimchi says "Israel is so called as being just among the nations." Gesenius translates it as "a righteous little people."

JESI, yā'zē, or **IESI** (anc. *Æsis*), Italy, city and episcopal see of the Marches in the province of Ancona, on the River Esino, 17 miles by rail southwest of Ancona. Its walls date from mediæval times and are well-preserved. The cathedral of Saint Septimius was built in 308, and the Palazzo del Comune in 1487-1503. There is a library containing paintings by Lorenzo Lotto, and a castle built by

Baccio Pontelli in 1488. The town takes its name from the river, which from 250 B.C. to about 82 B.C. formed the boundary of Italy. The ancient town *Æsis* was a colony used by the Romans as a recruiting ground. It was the birthplace of Emperor Frederick II, as well as of the composer Giovanni Battista Pergolesi. Pop. commune, 24,777.

JESPERSEN, yēs'pēr-sēn, **Jens Otto Harry**, Danish philologist: b. Randers, 1860. He was educated at the University of Copenhagen where he became professor of English in 1893. He was associate editor of *Dania* in 1890-1903, and in 1906 he received the Volney prize of the French Institute. He lectured at Saint Louis in 1904 and at Columbia University and the University of California in 1909-10. His literary works chiefly discussing phonetics include 'The Articulation of Speech Sounds' (1889); 'Chausers Liv og Digtning' (1893); 'Fonetik Læren om Sproglyd' (1897-99); 'Sprogundervisning' (1901; Eng. trans., 1904); 'Growth and Structure of the English Language' (1905); 'Modern English Grammar' (1909); 'Lehrbuch der Phonetik' (1913); 'Philosophy of Grammar'; 'Language—its Nature, Development, and Origin'; 'International Language.' D. Denmark, 30 April 1943.

JESSAMY BRIDE, The, name given in compliment by Goldsmith to Mary Horneck, a relative of Reynolds and a member of a family with whom the author was on terms of intimacy. Miss Horneck was thought to be the object of affection on the part of Goldsmith. She became Mrs. Gwynn and afterward gave to Prior her recollections of the author. "Jessamy" is a poetic name for jasmine.

JESSE, jēs'sē, in the Bible stands at the head of the house of David, who was his son. While Saul was persecuting David he took refuge in the land of the Moabites, where Ruth the Moabitess, his grandmother, had lived. In the genealogy of Jesus Christ as given in the Gospels of Matthew and Luke he is mentioned as one of the ancestors, as Christ in the New Testament is hailed "Son of David." This fact has suggested some of the most interesting creations of mediæval art, and what is called a "Jesse window" is a stained glass church window in which Jesse is depicted as the root of a tree which bears as its fruit David and other heroes and saints of the Old Testament, with the infant Jesus in the arms of his mother on the highest branch.

JESSE, Edward, English author and naturalist: b. Hutton Cranswick, Yorkshire, 14 Jan. 1780; d. Brighton, 28 March 1868. He was secretary to Lord Dartmouth and was appointed successively to a clerkship in the woods and forestry office and deputy surveyor of the royal parks and palaces. His love for natural history was fostered by his residence in Richmond Park, and later in Bushey Park, and at Hampton, where he was connected with the restoration of the Hampton Court Palace. While not possessed of scientific training Jesse's powers of observation and facility in expressing himself gave a considerable popularity to his writings. Author of 'Gleanings in Natural History' (1832-35); 'An Angler's Rambles' (1836); 'Anecdotes of Dogs' (1846); 'Lectures on Natural History' (1863). He edited Izaak Walton's 'Compleat Angler'; Gilbert

White's 'Selborne'; and L. Ritchie's 'Windsor Castle.' He also wrote handbooks to Windsor, Hampton Court and other places of note.

JESSE, John Henaage, English historian, son of Edward Jesse (q.v.): b. 1815; d. London, 7 July 1874. He was educated at Eton and afterward became a clerk in the admiralty, where he served for many years. He early developed a taste for literature and while his initial attempts at verse and drama were of little moment his later work possesses considerable value as presenting the times of which he wrote from the social and anecdotal side of history. Author of 'Memoirs of the Court of England During the Reign of the Stuarts' (1840); 'George Selwyn and His Contemporaries' (1843; new ed., 1882); 'Memoirs of the Pretenders and their Adherents' (1845); 'Literary and Historical Memoirs of London' (1847); 'London and Its Celebrities' (1850); 'Memoirs of the Life and Reign of King George the Third' (1867); 'Memoirs of Celebrated Etonians' (1875), etc. A collected edition of his works was published (30 vols., London 1901).

JESSE, Richard Henry, American educator: b. Epping Forest, Lancaster County, Va., 1 March 1853. He was graduated from the University of Virginia in 1875. He studied at Leipzig in 1885. Inspected German schools in 1890. Studied at Munich, spring and summer semester, 1905; at Berlin, fall and winter semester, 1905-06; was dean of the academic department of the University of Louisiana from 1878 till its union with Tulane University in 1884, in which institution he was professor of Latin till 1891. From July 1891 to July 1908 he was president of the University of Missouri. From ill-health he resigned as university president and entered by invitation upon The Carnegie Foundation. He served as president of the Missouri State Teachers' Association, the Southern Association of Colleges and Secondary Schools, the National Association of State Universities and the Baptist Congress. In 1904 he was awarded a commemorative diploma and medal at the Saint Louis Exposition for his services to education. He is author of 'Missouri Literature' (1901), with E. A. Allen, and of papers in the transactions of various societies.

JESSEL, jēs'el, Sir George, English judge: b. London, 13 Feb. 1824; d. there, 21 March 1883. He was of Jewish parentage and was educated at University College, London, where he became a fellow in 1846. He was called to the bar at Lincoln's Inn in 1847, was called within the bar and became a bencher in 1865, and in 1868 he was elected to Parliament for Dover. He attracted Gladstone's favorable notice in 1869 by two sound speeches on the Bankruptcy Bill, and in 1871 he was appointed Solicitor-General. He succeeded Lord Romilly as Master of the Rolls in 1873, was sworn a privy councillor and resigned his seat in Parliament. The Judicature Act of 1881 made him president of the First Court of Appeal where he served the remainder of his life. He was notable as a judge for his wide learning, his quick, accurate judgments and the rapidity and thoroughness with which he cleared his calendar. He was the first Jew to take a share in the

executive government of England, to become a regular member of the Privy Council and to take a seat on the judicial bench of Great Britain. He was vice chancellor of the University of London from 1880, a trustee of the British Museum, and a fellow of the Royal Society.

JESSEL, George Albert, American vaudeville comedian and actor: b. New York City, April 3, 1898. Long a favorite in vaudeville and radio, Jessel and his "Hello, Momma" have become the byword for that particular type of humor which has slowly faded into oblivion—the rowdy, sentimental approach that plays fully on the audience's emotions.

Jessel began his stage career as a boy singer in a trio that included Walter Winchell, later touring with Eddie Cantor in a boys' chorus and appearing in 1914 in London as a soloist. He appeared in 1919 in the *Gaieties*, where he first introduced his telephone conversation pieces, and in 1925 he starred in the stage version of *Jazz Singer* (produced as the first "talkie film" two years later, starring Al Jolson). Jessel appeared in his first motion picture in 1926 and in 1928 appeared in *The War Song*, a sentimental play of which he was coauthor. In 1930 he appeared with Fanny Brice in the musical *Sweet and Low*.

During the 1930's he appeared at various nightclubs and theaters and on radio. His radio appeal was a good deal less than his stage appeal but he nevertheless appeared on his own programs as late as 1940. In 1936 he was in Hollywood as a producer and in 1942 he produced on Broadway the musical revue *Show Time*.

In 1943 he retired from the stage to produce and direct motion pictures for 20th Century Fox, making such pictures as *The Dolly Sisters* (1945); *Nightmare Alley* (1947); *Dancing in the Dark* (1949); *Golden Girl* (1951); and *Wait 'Til the Sun Shines Nellie* (1952). He has also written *So Help Me* (1943), an autobiography, and *Hello Momma* (1946), an account of his vaudeville experiences.

JESSELTON, jēs' 'l-tūn, town, British North Borneo, situated on the northeast coast of Borneo on a small inlet of the China Sea. It is the chief port of the colony and, since June 1947, has been the capital of British North Borneo and of the West Coast residency. It is the terminus of the coast railway running north from Brunei Bay and acts as a trading center for the agricultural and stock-raising district around it. It exports raw rubber and has rice mills and fisheries, most of its trade being carried on by the Chinese. The port was founded in 1899 and during World War II was severely damaged. Pop. (1951) 11,266.

JESSOPP, jēs'öp, Augustus, Anglican clergyman and author: b. Cheshunt, Dec. 20, 1823; d. Norwich, Feb. 12, 1914. He was educated at Cambridge and after taking orders in the Anglican Church was curate of Papworth St. Agnes, Cambridgeshire, 1848-1855; head master of Helston Grammar School, Cornwall, 1855-1859; was headmaster of King Edward VI's School, Norwich, 1859-1879, and from 1879 rector of Scarning, Norfolk. He was an authority on archaeological subjects, wrote largely on past and present village life in England, and contributed many articles to the *Dictionary of National Biography*. His works include *Arcady for Better for Worse*

(1887); *The Coming of the Friars* (1889); *Trials of a Country Parson* (1890); and *Studies by a Recluse* (1893).

JESSORE, jě-sōr' (formerly YASOHARA), district, Pakistan, in East Bengal, situated in the Ganges Delta, with an area of about 2,600 square miles, bounded on the west by West Bengal and on the east by the Madhumati River.

Its terrain is largely made up of alluvial plain, although it has extensive marshlands in the western part, accounting for a high malarial mortality. Rice, jute, tobacco, sugar cane, and wheat are raised on the fertile plains, and in the forest areas are found areca and date palms.

The capital and main industrial center is the city of Jessore (1941 pop. 18,410) with rice and oil seed mills and manufactures of celluloid and plastics. The only other manufacturing city of importance is Jhenida which has a large sugarcandy industry.

History.—The district was a part of the Mohammedan kingdom in the first half of the 16th century, and in 1576 was conquered by the Hindus. Under British rule, it was a Bengal province, 2,925 square miles in area with a population (1941) of 1,828,216, until, with its large Mohammedan population, it was incorporated into the province of East Bengal, Pakistan, in 1947, with about one-seventh of the former district going to West Bengal, Republic of India. Pop. (1951) 1,708,000.

JESSUP, jēs'üp, Henry Harris, American Presbyterian missionary and author: b. Montrose, Pa., April 19, 1832; d. Beirut, Lebanon, April 28, 1910. He was graduated at Yale in 1851, at the Union Theological Seminary in 1855, and was ordained in that year. He served as a missionary in Tripoli and Syria in 1856-1860, and from 1860 until his death was at Beirut. He was missionary editor of the Arabic journal *El-Neshrah*, and was professor of theology and homiletics in the Syrian Theological Seminary at Beirut. He was moderator of the General Assembly at Saratoga in 1879. He was author of *The Women of the Arabs* (1873); *Mohammedan Missionary Problem* (1879); *The Greek Church and Protestant Missions* (1891); *The Setting of the Crescent and the Rising of the Cross* (1898); *Fifty-three Years in Syria* (1910).

JESSUP, Philip Caryl, American jurist and public official: b. New York City, N. Y., Jan. 5, 1897. A graduate of Hamilton College, Clinton, N. Y. (1919), Jessup later attended Columbia University (M.A., 1924, and Ph.D., 1927) and Yale University (LL.B., 1924), and was admitted to the District of Columbia bar in 1925. He became lecturer on international law at Columbia in the latter year, and thereafter advanced to professor in 1935 and Hamilton Fish professor in 1946. During this period he also served as assistant solicitor, Department of State (1924-1925); assistant to Secretary of State Elihu Root at the Conference of Jurists on the Permanent Court of International Justice (1929); lecturer on international law at the Academy of International Law at The Hague (1929); legal adviser to the ambassador to Cuba (1930); visiting professor at Harvard Law School (1938-1939); and chairman of the Pacific Council, Institute of Pacific Relations (1938-1942).

In 1942-1944 he served as assistant director of the Naval School of Military Government and Education at Columbia University. In the meantime he was appointed division chairman in the State Department's Office of Foreign Relief, and assistant secretary general of the United Nations Relief and Rehabilitation Administration (1943), and served as assistant secretary general at the Bretton Woods Conference (1944). Thereafter, beginning with his appointment in 1945 as a member of the United States delegation to the San Francisco Conference, he represented the United States frequently in various United Nations posts.

He was appointed ambassador at large by President Harry S. Truman on Feb. 10, 1949, and in July of that year Secretary of State Dean Acheson announced that a full review of United States Far Eastern policy would be made under Jessup's direction. On March 29, 1950, he was named senior adviser to the secretary of state, and in the same month he was accused of pro-Communist leanings by Senator Joseph R. McCarthy of Wisconsin, although he was cleared by a Senate subcommittee in July. In October 1951, following his appointment as United States delegate to the United Nations General Assembly, his loyalty was again investigated by the Senate Subcommittee on Internal Security. Although a majority of the committee members reported no evidence of disloyalty, the committee voted against confirmation of his appointment, and the Senate adjourned without voting on it. He was given a recess appointment to the post by the president on Oct. 22, 1951, and resigned effective Jan. 19, 1953.

His works include *The United States and the World Court* (1929); *International Security* (1935); and *A Modern Law of Nations* (1948).

JESSUP, Walter Albert, American educator: b. Richmond, Indiana, Aug. 12, 1877; d. New York City, July 7, 1944. He received his B.A. in 1903 at Earlham College, Richmond, Ind., and his Ph.D. in 1911 at Columbia University, New York. He served as professor of education and dean of the School of Education at Indiana University (1911) and dean of the College of Education, Iowa State University (1912-1916). From 1916 until 1934 he was president of the State University of Iowa, resigning the latter year to accept the presidency of the Carnegie Foundation for the Advancement of Teaching. In 1941 he also became president of the Carnegie Corporation of New York, serving in this dual capacity until his death.

He served as a member of various educational survey boards attempting to revise antedated methods of education and was a stern opponent of the government's attempt to subsidize higher education. He maintained that it would lead to a regimentation of education.

JESTER, jēs'tēr, a professional "fool" or humorist, an entertainer such as were formerly employed by European monarchs and wealthy nobles. Originally the jester was a court minstrel whose duty it was to tell and sing of *gestes*, heroic deeds (Lat. *gesta*), but with the decline of minstrelsy the word *geste* changed in meaning and the *gestour* developed into a domestic buffoon (Fr. *bouffon*), a relater of witty stories. Jesters usually wore a motley dress and a cap surmounted with bells and asses' ears or a cock's

comb, hence the modern word "coxcomb," a showy fool or vain pretentious person. The emblem of the jester was the fool's bauble or *marotte*.

JESU DULCIS MEMORIA ('Jesu! the very thought of thee'), the first line of a poem dating from the 12th century. In the earliest manuscript it consists of 42 stanzas of four lines each with a single rhythmic scheme for each stanza. Twelve stanzas of this poem have been taken to form three hymns of the Office of the Holy Name in the Roman Breviary, namely, *Jesu dulcis memoria* (Vespers), *Jesu rex admirabilis* (Matins) and *Jesu decus angelicum* (Lauds). The *Dictionary of Hymnology* (1892) states that "this hymn has been (and there seems little reason to doubt, correctly) ascribed to St. Bernard and there are many parallels to it in his prose works, especially that on the Canticles. It has been variously dated 1130, 1140, or 1153, but as positive proof is lacking that it is unquestionably the work of St. Bernard, it is manifestly impossible to fix a date for its composition." Although Dom Prosper Louis Pascal Guéranger contends that there are "incontestable manuscripts" to prove that the three hymns of the Holy Name were written by a Benedictine abbess of the 14th century, he does not give the date and location of these manuscripts, and the existence of the 12th century manuscript seems to preclude that possibility. Eminent hymnologists, including Philip Schaff, Richard C. Trench, Francis A. March, and Samuel A. W. Duffield, seem to be unanimous in following the tradition of St. Bernard's authorship. The *Jesu dulcis memoria* has been translated into English many times, notably by Patrick Donahoe and by Edward Caswall.

HERBERT F. WRIGHT.

JESUIT ESTATES ACT or JESUITS' ESTATES ACT. This measure, passed by the legislature of Quebec in 1888, gave rise to an agitation which occupied public attention throughout all parts of Canada during the following year and for a time threatened to bring about a reconstruction of political parties. Under the French regime, which ended in 1760, the Jesuits had owned considerable landed estates at various points in the valley of the St. Lawrence—particularly at Quebec, Montreal, and Laprairie. After the conquest of Canada by the English the religious orders were permitted to retain the property which they held under grant from the French crown or by other legal title, with the exception of the Jesuits. This order had been banished from France, 1762, and was suppressed generally by the papal brief *Dominus ac Redemptor* (1773). Although Gen. Jeffrey Amherst brought influence to bear upon the government to secure for himself the estates of the Jesuits in Canada, his efforts proved unsuccessful. Despite personal pressure and the papal brief the "black robes" at Montreal and Quebec were not immediately molested by the British authorities, who refrained from taking over their property until the death of Father Casot, the last remaining member of the Society. This event occurred in 1800. Once possessed of the Jesuits' estates the crown had to determine what should be done with them, and after a certain amount of indecision it was decided that their income should be used for the support of education in the

province of Lower Canada. In vain the Roman Catholic bishops maintained the legality of their church's claim to the property. The government stood its ground and appropriated the revenues.

From having been originally assigned to Lower Canada, the Jesuits' estates passed at Confederation (1867) into the hands of the Province of Quebec. It was found, however, by the local government that their actual value was impaired by the ecclesiastical claims which stood against them. The bishop did not cease to protest against their retention by the state and the Jesuit order, revived under papal warrant, defended the justice of its own title. Had these lands been situated in a Protestant community the representations of bishops and Jesuits might have carried little weight, inasmuch as they could not be vindicated by an appeal to the courts, but where the mass of the population was Catholic the reiterated claims of the church had their effect upon the market. After Confederation the rent of the property decreased until it became almost negligible in comparison with the valuation, and when the government sought to effect a sale no purchaser could be found. In 1887 after the question had been put off by several preceding administrations, Honoré Mercier, a French Canadian Liberal of pronounced views, endeavored to effect a final settlement of it. Whatever the motives which actuated him, to criticize them would be to raise a matter of opinion. He introduced a bill which gave \$400,000 to the Roman Catholic Church as compensation for the property which the crown had seized in 1800. This sum was, for the moment, to constitute a special deposit which eventually should be distributed by the pope in return for a relinquishment of all claims to the Jesuits' estates that had been advanced by the bishops or by the Jesuits themselves. As a matter of fact, the pope divided the money among the Jesuits, the bishops, and Laval University, but in the meantime this recognition of his right to allot what were considered public funds among members of his own church drew forth cries of remonstrance from a large number of Protestants. A simultaneous grant of \$60,000 to Protestant schools in Quebec did not allay the feeling of hostility.

It should be observed that two distinct questions were raised by the agitation which proceeded from the Jesuits' Estates Act. The first had its root in the opposition of religious systems; the second was due to the federal character of the Canadian constitution. In 1888, Col. William E. O'Brien, a Protestant member of the House of Commons, proposed that the Dominion Parliament should disallow the action of the Quebec legislature in appealing to the pope and setting aside \$400,000 as a subsidy to Roman Catholic institutions. The debate which followed was marked by a series of able and aggressive speeches from all quarters of the House. The chief supporter of Colonel O'Brien's motion was Mr. D'Alton McCarthy, while against him were ranged the premier, Sir John Macdonald, and Sir Wilfrid Laurier, the leader of the opposition. On the one side an appeal was made to the alleged political misdeeds of the Jesuits throughout the whole course of their history and to their expulsion from the chief countries of the civilized world. On the other, it was maintained that the Dominion Parliament could not, without extreme danger, disallow provincial legislation and that

"the subject matter of this act was one of provincial concern, only having relation to a fiscal matter entirely within the control of the legislature of Quebec." The vote of 188 to 13, "the noble thirteen," against Colonel O'Brien's motion conveys but a faint idea of the public interest in this debate and in the issues which lay behind it. The fundamental claim of the extreme Protestant party was that recognition of papal authority and the encouragement of the Jesuits were direct blows at British freedom; while the leaders of both parties united to point out the constitutional dangers which would accompany disallowance.

Outside the House of Commons the agitation caused by the Jesuits' Estates Act led to the formation of an Equal Rights Party which was recruited from the ranks of the more pronounced Protestants with the ultimate object of suppressing all special privileges enjoyed by the Roman Catholics in Canada. It proved impossible, however, to break down existing political lines by giving central importance to an anti-Catholic movement. Despite many public meetings and an active campaign in the newspapers, the attack upon the Jesuits' Estates Act has left no lasting trace upon party organization in Canada, but it was not without influence in several directions, notably in the abolition of separate, namely, Catholic schools in the province of Manitoba.

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JESUIT RELATIONS AND ALLIED DOCUMENTS. The, a series of 73 volumes on the travels and explorations of the Jesuit missionaries in New France (1610-1791), published in 1896-1901. The original French, Latin and Italian texts, with English translations and notes; illustrated by portraits, maps and facsimiles, have been edited by Reuben Gold Thwaites. The very great value of the work is that of original materials of the most interesting character for the history of North America from 1611, the date of the first landing of Jesuit missionaries on the shores of Nova Scotia. The reproduction of documents takes them in chronological order. The execution of the work by translators, editors, and printers (at Cleveland, Ohio) is in every way admirable; and its completion makes a monumental addition to American historical libraries.

JESUITS, members of a Catholic religious order founded in the 16th century and known as the Society of Jesus.

Foundation of the Society of Jesus.—The founder of the Society of Jesus was St. Ignatius Loyola (1491-1556), a Spaniard. His early life was spent as a man about town and as a soldier. While convalescing from a wound, he began to appreciate the aimlessness of his life when compared to the ideals discovered in his reading of the lives of Christ and His saints—the only books available to him in his enforced idleness. As a result he became filled with the desire of seeking both his own Christian perfection and that of his neighbors.

A large part of a year spent in intense prayer, self-discipline and acts of Christian charity brought him a wealth of spiritual experience. This knowledge he enucleated in a

book which was to be known as the *Book of the Spiritual Exercises*. It was intended to be a guide book, or field manual, for a spiritual director who wishes to enlist recruits for the cause of Christ and Christian holiness. Its use helps people to realize clearly the Christian philosophy of life, to get rid of the obstacles to the adoption of that life, to discover methods of prayer, and to develop an ardent personal love of Jesus Christ.

Ignatius began to offer his Exercises to all who were prepared to try them, and always with astonishing success. Indeed, when he was a student at the University of Paris his sincerity and enthusiasm influenced six fellow students not merely to make the Exercises, but to devote their lives thenceforth wholly to the service of Christ and to the spread of the principles embodied in the Exercises. After long deliberation and much prayer these young men consecrated their lives to poverty and chastity as religious virtues, and to a crusade to the Holy Land to convert the Saracens; or, if this latter task proved impracticable, to offer their services unconditionally to the pope. These decisions were eventually ratified by solemn promises to God during a Mass celebrated at a Montmartre chapel outside Paris on Aug. 15, 1534.

In this way the Society of Jesus began. Yet these six men with Ignatius did not intend at first to form a religious order. They thought their work would be hampered by the practices which were at that time regarded as part of normal religious life.

Their studies at Paris finished, they went to Venice to seek shipping for Jerusalem. The months of waiting for a boat were spent in a vigorous evangelization of Venice. At length, early in November 1537, they decided to visit Rome. Before they split up into groups for the journey (because by this time they had received additions to their number), they agreed they would say to enquirers that "they belonged to the Society of Jesus." In Rome they were soon busily engaged in spiritual and charitable works of all kinds, and, before long, Pope Paul III had persuaded them that they could undertake a spiritual crusade more useful to the church with Rome as their headquarters than with Jerusalem as their base of operations.

Papal encouragement caused the little group to believe that they could get official approval for a rule of life conformed to their unusual views. Thus it was that during the Lent of 1539 the group first seriously discussed the forming of a religious order. By June 24, 1539, they had thoroughly debated, prayed about, and agreed to a short document of their proposed institute. It was submitted to Pope Paul III and formally approved on Sept. 27, 1540. The following year (April 1541), the group elected Ignatius as their general superior. The Society of Jesus had now become one of the religious orders of the Catholic Church. These pioneer Jesuits also commissioned Ignatius and another of their colleagues to set about drawing up a detailed constitution for the Society.

Constitutions and Organization of the Society of Jesus.—These constitutions were revolutionary in their day. They did not encourage as a daily duty the solemn liturgical ceremonies which up to that time had been distinctive of religious life; they did not prescribe a religious dress different from ordinary clerical garb; nor

did they impose any regular penitential practices. The lengthy training of recruits, the concluding year of spiritual studies, and the vow of special obedience to the pope were also striking innovations. Not less notable, perhaps, was, and is, the practice of the members of the Society of refusing all ecclesiastical titles and honors, unless the reigning pontiff demands acceptance in an individual case.

The general superior of the Society is elected for life by a general congregation convened for that purpose, and made up of professed members chosen by their colleagues all over the world to represent them in Rome. The general superior has very ample powers. Nevertheless, only a general congregation, with papal approval, can alter the constitutions of the Society. The order is divided into provinces; and to each province the general superior nominates a provincial superior, usually for a period of from three to six years. Each province is made up of houses or colleges which are in the charge of local superiors, usually called rectors. All these superiors have small councils of advisors, but final decisions are the responsibility of the superiors alone.

Recruits to the society are divided into two classes: the scholastics, who are in, or are destined to receive, Holy Orders; and the brothers, who do not undertake academic studies but spend their lives caring for domestic affairs, as sacristans, refectorians, and so on.

Both the scholastics and the brothers have a two years' novitiate, followed by the taking of three simple, but perpetual, vows of poverty, chastity, and obedience. The scholastics usually spend from 12 to 15 or more years in studying humanities, philosophy, and divinity, and in acting as prefects and schoolmasters. Ordination to the priesthood occurs three quarters of the way through the divinity course. The period of training is rounded off by a year of ascetical and mystical theology and study of the Institute of the Society of Jesus,¹ and by the final vows. Those who have been outstanding divinity students make a solemn profession of four vows. This profession includes a special vow of obedience to the pope which is taken in no other religious order. The other members of the Society, whether priests or brothers, take the three simple vows of religion. Only the solemnly professed are eligible for membership in a general congregation and for certain offices, like that of a provincial superior.

Development of the Society of Jesus.—Calls for the help of the new apostles came to Ignatius from all sides. Soon members of the Society were to be found in many of the countries of Europe, and in the Portuguese possessions in the East.

Ignatius sent as many of the increasing number of his recruits as he could to be educated at the University of Paris. War between France and the Holy Roman Empire, however, caused the Spaniards among them to transfer to the University of Louvain. The development of the Society in France was also increasingly hindered by the Parlement of Paris and the Sorbonne from motives which included jealousy of the notable academic successes of the fathers of the Society and resentment at their growing influence at Paris.

The establishment of a Jesuit house at Co-

¹ The collection of documents on which the legal existence and government of the Society is based.

logne (1543) brought a stream of German recruits to the Society. The first ones were sent to Rome to get their initial training under Ignatius' eye. Spanish progress was the most unhindered and the most spectacular in the earliest days. The imperial ambassador at Rome strongly supported the new order, and the entry of the duke of Gandia (St. Francis Borgia, third general of the Society), helped to smooth all negotiations. Recruits and colleges multiplied in the Iberian Peninsula.

The growing number of Jesuit students compelled the Society to educate its own men; but soon other students began to attend the classes whose reputation grew rapidly. Before long, Ignatius was besieged with requests from many parts of Europe for Jesuit schools and colleges for the education of all comers.

For 50 years Ignatius and his successors and their assistants worked on a scheme of studies for these schools and colleges. They used as a basis the newly developed courses in humanistic studies at the University of Paris. The resulting program, the *Ratio Studiorum*, was so effective an instrument that the Jesuits were, by common consent, given the title of "the schoolmasters of Europe."

Ignatius saw the Society spread all over Italy with numerous houses and colleges. In Rome his sons took charge of the Church of Our Lady of the Wayside. They preached, catechised, heard confessions, cared for the sick and the poor, assisted persecuted Jews, and established hostels for repentant women. In February 1551, the Roman College (now known as the Gregorian University) was begun. Before two years had elapsed it had 300 students. The German College, begun by Ignatius in Rome with 24 non-Jesuit students who were to be prepared for the secular priesthood, became an increasingly powerful weapon in the Counter Reformation in the empire.

Fathers Diego Laynez and Alphonsus Salmeron played a very important part as papal theologians at the Council of Trent. But perhaps the two greatest of Ignatius' immediate disciples were St. Francis Xavier and St. Peter Canisius. Xavier performed well-nigh incredible labors in spreading Christianity from India to Japan; Canisius wore himself out in restoring virtue, zeal, and learning to the Reformation-crippled church in German-speaking lands.

At the time of Ignatius' death on July 31, 1556, there were more than 1,000 Jesuits, of whom 40 were solemnly professed. There were about 100 houses and colleges divided into 12 provinces: Italy, Sicily, Portugal, three in Spain (Aragon, Castile, and Andalusia), Upper and Lower Germany, France, India, Brazil, and Ethiopia; and his sons had already entered the Congo and China.

Middle Years of the Society's History.—

The story of the Society of Jesus during the next 217 years is also an important part of the history of Europe, and some of that story, insofar as it is contained in the archives of the Society, is not yet adequately told. Some topics of special interest in that history will be noted here.

There were three main types of Jesuit activity during those years: educational, the inculcation of deeper spiritual life, and the spread of the Gospel in non-Catholic lands. Jesuit schools and colleges multiplied all over Europe, setting,

indeed, such high standards of achievement that they were eventually supported by non-Catholic rulers. Secondly, the work of giving the Spiritual Exercises brought countless souls to the heights of Christian perfection. One of these was the Savoyard bishop, St. Francis de Sales. Thirdly, the Society conducted an immense foreign missionary effort, which was especially notable for the originality of its methods and for the intellectual eminence of the men engaged in it. But the paramount impression received when one peruses these missionary annals is that of the evident holiness of so many of the Jesuit missionaries. Nine hundred of them gave their lives for their faith and for their neighbors; and over 100 of them have been beatified or canonized by the church.

One group of missionary martyrs must be recalled here. They are the French fathers who labored so valiantly to convert the American Indians in the middle years of the 17th century. Despite cruelties of the most fiendish kind their courage and determination remained steadfast until death. Eight have been canonized, among them St. Isaac Jogues and St. John de Brébeuf. Three suffered and died at Auriesville, in the State of New York; five in the Huron country in Canada.

The English mission of the Society of Jesus began when Father Robert Persons and Father Edmund Campion entered England secretly in 1580. The severe laws in force against the practice of the Catholic religion, and against even the existence of Jesuits, made impossible any public work by the Society for more than 200 years. Nevertheless, increasing numbers of Englishmen joined in the heroic and dangerous work of preserving and advancing the faith, despite the pressure of the penal laws. Many English Jesuits were martyred. By 1623 there were 218 Englishmen in the Society, and the English Province was created. It soon undertook missionary work in the New World; and in 1634 Father Andrew White and Father John Greville (also known as Father John Altham) landed in southern Maryland with the pioneer settlers of the colony. The work of this Maryland mission was carried on until there were in 1831 enough American Jesuits to form a Maryland Province, the first United States province of the society.

Suppression of the Society.—Although the Latin countries, excepting France, were largely free from major secessions to Lutheranism and Calvinism, they were not thereby free from the religious nationalism of which Protestantism was the main expression. The antipapal Catholicism marked in France by the Pragmatic Sanction of Bourges in 1438 and the Four Gallican Articles of 1682, became a notable feature of the courts of the Bourbon monarchs and those of Habsburg-Lorraine. To this schismatical attitude the Society was vigorously and inflexibly opposed. The situation was made more complex by the diffusion of Jansenism in various guises in these countries. Its heretical principles were early discovered, and boldly and persistently exposed and challenged by the Jesuits, first in France and then in other countries. These various controversies were waged with increasing bitterness in the 17th and 18th centuries.

These preliminary attacks came to maturity with the development of the Enlightenment. This attitude of mind sought to emancipate men

from the trammels of institutional religion. Catholicism was the chief target, and the destruction of the work of the Jesuits the first objective. Their vow of obedience to the pope made them especially obnoxious.

In the middle of the 18th century the attacks on the Society became more thoroughly organized. The Bourbon monarchs successively expelled the Jesuits from their realms with great violence; and they combined to compel the popes to suppress the Society of Jesus throughout the world. But the popes, recognizing the Society as the great bulwark of papal power and realizing its innocence of the calumnies multiplied against it, long resisted the Bourbons' importunities. At length Pope Clement XIV yielded to the intense pressure brought to bear on him; and on July 21, 1773, he issued a brief suppressing the Society of Jesus throughout the Catholic Church. At last the Gallicans, the Jansenists, and the deists of the Enlightenment, in an uneasy union, could celebrate their victory, before the French Revolution shattered their plans. In another 16 years it came quietly but mercilessly, and the Bourbon power was irrevocably undermined. And so the way was prepared for the official restoration of the Society in 1814.

Restoration of the Society of Jesus.—The Society did not cease to exist in 1773. Pope Clement XIV's decree was not effective throughout the world as soon as it was promulgated in Rome. Instead the decree of suppression had to be published locally. Wherever there was no local promulgation, there the Society was not suppressed.

Two European monarchs forbade the publication of the decree of suppression in lands under their jurisdiction: Frederick II of Prussia, and Catherine II of Russia. Although the papal nuncio strenuously urged Catherine to suppress the Society in her dominions, she steadfastly refused, for she had no one else to staff the colleges of the Society.

After the suppression, the ex-Jesuits in Holy Orders became diocesan priests and continued with the work they were doing. In France, some of them formed a religious congregation to keep alive the ideals they cherished. As the years went by, the news of the continuing existence of the Society in White Russia brought joy and hope to ex-Jesuits all over the world. Eventually the downfall of the Bourbon monarchies enabled the pope to permit a piecemeal and clandestine restoration of the Society; first, by permitting ex-Jesuits to join the White Russian Province; and second, by allowing the erection of provinces with novitiates in various parts of the world. This gradual revival culminated in the full restoration of the society by the bull, *Sollicitudo omnium ecclesiarum*, promulgated in 1814 by Pius VII.

Reconstituted Society.—As a consequence of its 40 years' suppression the Society had to face long years of labor to rebuild its life and work. In some countries a few ex-Jesuits survived to renew their vows in the new Society.

In the United States, the abrogation of the anti-Catholic laws in the State of Maryland had enabled the ex-Jesuits in that state to establish the first Catholic college in the United States. This was "the Academy on the Potowmack," later to be known as Georgetown University, founded in 1789 by John Carroll, first Catholic bishop of Baltimore, himself an ex-Jesuit.

Throughout the Catholic world the rise of the new society was a slow and arduous business. Not merely had the spiritual and educational works of the Society to be resumed and reshaped to meet the needs of the changing times, but the recruits to the order had to be trained in the proper spirit of their Institute. This was no easy matter. Nor were these the only difficulties. The first third of the 19th century still saw among Catholics a strong Gallicanism, or Cisalpinism, which was resolutely hostile to any resuscitation of the Society and its works. Soon to be more formidable was that full blossoming of 18th century ideas called liberalism. This liberalism was intertwined in Latin countries with an anticlericalism which, as the century progressed, waxed mightily in France, Spain, Italy, and throughout the republics of South America.

True to the spirit of its founder, the Society of Jesus undertook a wholehearted offensive against this liberal anti-Catholicism, and the battle was excessively bitter. Though the Jesuits were obviously not alone in their struggle, yet they and their work were nearly always at the center of the attack. Indeed, the whole 19th century history of the Society is marked by expulsions of the Society from one country after another as liberal governments gained power. For example, during the period when Father Pierre-Jean Beckx was general superior (1853-1887), the Society was expelled from large parts of Italy in 1859 and 1860; from Venice in 1866; from Germany in 1872; from Rome in 1873; from France in 1880; and from Spain in 1854 and again in 1868. Yet the Society always returned to continue its double task of making perfect Christians out of its own members and out of their fellow citizens.

Society of Jesus in the United States.—The two outstanding developments of the Society of Jesus in the last hundred years have been the increasing attractiveness of its ideals to the young men of the United States, and its extraordinary achievement in foreign missions.

During the last 150 years the Society in the United States has grown from a group of 11 men in an isolated mission and one small college to 7,630 men, the largest national group of Jesuits in the world. The Maryland mission has grown into ten large provinces. Indeed, the rate of increase has been so rapid that more provinces are likely to be formed.

This growth has been phenomenal not only from the point of view of the United States, but also from the point of view of the Society as a whole. The over 7,600 United States Jesuits are well on the way to becoming the preponderating element among the 32,500 Jesuits in the world. No longer does continental Europe provide the majority of the Society's members. Now it is the turn of the English-speaking lands and South America to give increasing leadership, as well as enlarged support to the traditional services which the Society has been privileged to undertake at the behest of the popes.

The most prominent work of the Society of Jesus in the United States has undoubtedly been that of higher education. High schools, colleges, and universities built up and staffed by the Society are widely spread throughout the country.

In 1954 there were 41 high schools and 28 colleges and universities maintained by the Society in the United States. The numbers of stu-

dents for the same year were: high schools, 25,155; colleges and universities, 97,183.

This vast educational work of the Society in the United States can be matched, insofar as local conditions permit, in every part of the world where Jesuits are to be found.

But there is other work which may not at first sight be so noticeable, but which is at least equal in importance. This is the movement for closed spiritual retreats which are such a powerful means of sanctification. In many parts of the world more and more houses are being erected by the Society wherein men either singly or in groups may stay for a few days and undertake those Spiritual Exercises which have made the name of St. Ignatius Loyola so famous.

There is no opportunity here to describe the immense and almost worldwide intensification of spiritual life fostered by the Jesuit Sodalities of Our Lady, by the Apostleship of Prayer, and by the League of the Sacred Heart. The *Messenger of the Sacred Heart* is published independently in many languages in many countries, and copies of it are bought in hundreds of thousands. In 1945 the 69th separately edited *Messenger of the Sacred Heart* appeared, published in Lima, Peru.²

Foreign Missions of the Society.—It is not commonly realized that the Society of Jesus is the largest foreign missionary organization in the world, largest both by the number of members engaged in the work, and by the extent of the territories in which these missionaries are to be found. In 1953 more than 50 major mission areas were in the charge of the Society. A notable center is India where the Society has 10 missions and over 1,950 Jesuits. In 1954 there were 5,452 Jesuits at work in the mission fields. This means that the Society has more than one sixth of its members employed as missionaries.

The United States Jesuits bear their full share in this labor; but this is a recent development. In 1926, there were about 175 engaged in missionary work, chiefly in the Western Hemisphere; in 1953 there were well over 1,000 United States Jesuits in missions all over the globe and among 50 million people. Again, the educational work abroad of the United States Jesuits is notable: 1 university, 11 colleges, 26 high schools, and 4 seminaries. An important means of support for this work is a magazine, *Jesuit Missions*, published in New York. Similar Jesuit publications are to be found in other parts of the world.

One of the outstanding missionaries of the last century was Father Pierre Jean de Smet (q.v.) who labored indefatigably to spread the Gospel of Christ in the Midwest. In Chota Nagpur in India the labors of Father Constantine Lievens stand favorable comparison with any of the greatest missionaries that the church has known.

No survey, however, of the work of the modern Society should omit reference to its great influence on the leading minds of the Catholic Church by means of the great Roman centers of ecclesiastical higher education in the charge of the society. These are the Gregorian University and its affiliated schools, the Biblical Institute, the Institute for Oriental Studies and the Russian College. To these institutions come priests

from almost every diocese of the Catholic world to receive a thorough training in the various branches of the sacred sciences. The Gregorian University has regularly over 2,000 students; and its faculty is drawn from among the leading divines in all the provinces of the Society.

To the long list of philosophers and theologians, headed by St. Robert Bellarmine and Francisco Suarez, could be added lists of names of Jesuits who made notable contributions to other sciences: mathematicians like Christopher Clavius and Ruggiero Boscovich; paleographers and hagiographers like the Bollandists; explorers and geographers, like Jacques Marquette in the Mississippi Valley and Eusebius Kino in New Mexico, Arizona, and California. There have been astronomers, linguists and historians too numerous to mention. No knowledge or work which is seen to promote the greater glory of God comes amiss to the Society. Nor is it undertaken by its members without that zeal to achieve excellence which is the only attitude worthy of the enthusiastic knight of Christ. See also LOYOLA; SPIRITUAL EXERCISES.

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JESUP, Morris Ketchum, American banker and philanthropist: b. Westport, Conn., June 21, 1830; d. New York, N. Y., Jan. 22, 1908. He was engaged in banking in New York 1852-1884, but retired from business in the latter year. In 1881 he became president of the New York City Mission and Tract Society, for which he subsequently erected the DeWitt Memorial Church in Rivington Street, in memory of Rev. T. DeWitt, his father-in-law. He was made president of the Five Points House of Industry in 1872; was a founder of the Young Men's Christian Association, of which he was president in 1872. He was also president of the American Museum of Natural History, 1881-1907, and of the New York Chamber of Commerce 1899-1907. To the American Museum he gave a collection of native woods valued at \$100,000; to the Woman's Hospital in New York city, \$100,000; and to Yale University and Williams College, also large sums. He gave large contributions to the various Peary Arctic expeditions. He endowed the Jesup North Pacific Expedition (q.v.), and gave liberal sums as well as much time and thought to the establishment of schools for the Negro population of the South.

JESUP NORTH PACIFIC EXPEDITION, The, an American organization for archaeological research, supported by Morris K. Jesup (q.v.) and conducted by the American Museum of Natural History (1897-1903). Under the direction of Harlan Ingersoll Smith (1872-1940), excavation was begun in the Thompson River district of British Columbia, and in successive years was continued farther eastward, and

² War and other factors have since reduced this number. A Hungarian-language edition, inaugurated in Canada in 1953, brings the present total of *Messengers* to 50.

also around Puget Sound, down the west coast of Washington, and in the Yakima Valley of Washington. Material evidence of a prehistoric civilization uncovered by this expedition included carved and sculptured implements and tools, shell ornaments, and wall paintings and sculptures.

JESUS, SON OF SIRACH. See ECCLESIASTICUS.

JESUS CHRIST (or **JESUS THE CHRIST**, the Anointed or Messiah: Gr. *Christos*; Heb. *Mashiakh*). Although Matthew (1:21) interprets the name (originally Joshua, that is *Yahweh is salvation*) and finds it specially appropriate for Jesus of Nazareth, it was a common one at the time. Josephus, the Jewish historian, refers to 19 different persons by that name. The proper name "Jesus," when referring to Jesus of Nazareth, was ordinarily supplemented by the title "Christ," even in early Christian usage. Paul sometimes reversed them and placed the title first: "Christ Jesus." The full term reflects one of the earliest stages of the Christian faith, for which Jesus was the promised Messiah of Jewish expectation, that is, the exalted, semidivine king of Israel in the glorious Age to Come.

Sources for His Life.—Our sources of information for his life and teaching are the four Gospels, written apparently between 65 and 125 A.D. (see BIBLE—*Growth of the New Testament Literature, Including Literary Criticism*). These are not biographies in either the ancient or the modern sense, but set forth the early Christian "proclamation of the message of salvation" in terms of the life, ministry, teaching, death, and resurrection of Jesus. But it is only upon the basis of the Gospels that any biographical account of the life of Jesus can be written. Earlier than the Gospels are the epistles of Paul; though containing almost no biographical material (Romans 1:3; I Corinthians 11:23-25, 15:3-7), they nevertheless presuppose the historical career of Jesus, his human character (II Corinthians 10:1 and I Corinthians 13, Paul's portrait of Jesus), and his unjust condemnation and crucifixion (I Corinthians 2:8; II Corinthians 13:4), as well as his resurrection, exaltation, and divine nature (Romans 8:34; Philippians 2:5-11). The apocryphal Gospels, the earliest of which come from the 2d century, are wholly fictitious, except for a few details that reflect the earlier "canonical" Gospels (consult M. R. James, *The Apocryphal New Testament*, 1924, where they are translated). So also are the *Agrapha* (q.v.), or unwritten sayings of Jesus, including the so-called *Logia Iesou* found in Egypt (see OXYRHYNCHUS). Many of them reflect the heresies of later centuries, which their authors tried to support by attributing such teachings to Jesus. A few non-Christian writers (Tacitus, Pliny the Younger, Suetonius, and one or two others) refer to the early Christians, and even to Christ, but give no details. The state of the sources is precisely what we should expect. The recollections of the earliest teachers and evangelists ("eyewitnesses and ministers of the word," Luke 1:1-4) were handed down orally, as was the custom in transmitting Jewish religious teaching; in the second and third generations, after the church had spread far afield in the Gentile world, where books were commonly used to set forth religious teaching, and where the living voice of tradition was less relied upon, the Gospels were written; later, when

the living tradition had been exhausted (that is, almost completely set forth in the Gospels), other compositions were undertaken, perhaps in good faith, but without adequate critical equipment.

Modern scholars recognize a difference in purpose and character between the first three (that is, synoptic) Gospels and the Fourth Gospel (John); they also recognize the existence of earlier sources underlying all four; some scholars (the "form critics") have even tried to reconstruct the original oral traditions in the form in which they circulated prior to the writing of any Gospel or even of any Gospel source. Accordingly, the modern student of the life of Jesus no longer seeks to combine or weave together all the narratives, discourses, and sayings of the Gospels into one continuous history; instead, he recognizes the development of tradition, and the editing of earlier material by later writers (especially of Mark by Matthew and Luke), and he studies the individual units of the older tradition as they existed, originally, in relative isolation, as parts of the preaching (*kerygma*) or teaching (*didachē*) of the early Christian apostles and evangelists. For him, the material does not lie on one flat dead-level; like all historical material, it is "weighted," and must be studied not only in relation to the life of Jesus, but also to the contemporary world, and especially to the needs and purposes of the early Christian communities in which it was preserved, handed down, compiled, and edited. Compared with traditional information about many other figures in ancient history, including Biblical history, the sources for the life of Jesus are definitely superior both in quantity and quality. Moreover, as modern theologians point out, neither the proclamation of the Christian message of salvation nor the religious value of the Christian teaching is dependent upon our possessing a fully detailed biography of Jesus.

Birth and Youth.—Although Mark 6:1 seems to imply that Jesus was born in Nazareth, and although his birth in Bethlehem was not generally known (compare John 7:40-52), Matthew 2:1 and Luke 2:4 agree in representing him as born in the city of David, which was the most appropriate birthplace for the Messiah. Luke's solution is that Jesus' parents lived in Nazareth, but went to Bethlehem at the time of the enrollment—or registration for the purposes of a census or of taxation, or both—under the Syrian governor, Quirinus, and it was then and there that Jesus was born. Unfortunately we do not know the date of this enrollment: it may have been around 6 B.C. Matthew states (2:1) and Luke implies (1:5) that Jesus was born under King Herod, who died 4 B.C. (The error in chronology, by which Jesus was born at a date "B.C.," goes back to the monk Dionysius Exiguus who lived early in the 6th century; his intention was, of course, to begin the Christian era with the birth of Christ.)

Matthew and Luke also agree that Jesus' birth was wholly supernatural, since (in the summary language of the later creed) he was "conceived by the Holy Spirit and born of the Virgin Mary." For Matthew (1:18-25) this was the fulfillment of a prophecy found in Isaiah 7:14 (that is, in the Greek version, not in the Hebrew original text: see BIBLE—*Manuscripts and Versions of the Old Testament*). In Luke the doctrine of the virgin birth of Jesus is expressed in the phrase "since I have no husband" (1:34; literally "since I know not a man"), which many scholars view

as an explanatory gloss added under the influence of the text of Matthew, and in a similar phrase (3:23, "as was supposed") which has been inserted into the genealogical table. Although the doctrine of the virgin birth does not rest exclusively upon such literary evidence as this, it is important to note that nowhere else in the New Testament is it clearly stated or implied.

The two infancy narratives (Luke 1-2 and Matthew 1-2) are quite divergent, and agree only upon the main points. It has been thought that Matthew reflects the point of view of Joseph, Luke that of Mary. In any event, devout imagination has been at work, and the reconstruction of the narrative of Jesus' birth and boyhood, especially in the Lucan idyll with its combined account of the birth and childhood of John the Baptist, is not only charming in its literary style but historically most probable. The earnest Jewish piety of Jesus' home, the character of his parents and especially of his mother, the deeply religious tone and outlook of the saintly people among whom he spent his earliest years (note especially the hymns in Luke 1-2), the rich Old Testament flavor of the very language used by Matthew and Luke—all this helps us to understand the profound religious development of the man Christ Jesus. From his very childhood he was aware of his relation to God, as involving on his part the unquestioning obedience and responsiveness of a child to his heavenly Father (Luke 2:39-52).

The village of Nazareth in Lower (or Southern) Galilee, where Jesus grew up, was located beside one of the great international highways of trade and travel. Here caravans of traders from Egypt and North Africa or from faraway Palmyra or Babylon or even India, military companies from Rome or Gaul, Cappadocia or Spain, could be seen making their way across the fertile Plain of Esdraelon. Off to the southeast rose the rounded hill of Tabor; to the west lay the blue Mediterranean with its coastal shipping and naval vessels; over the hills to the northeast, deep down in the valley of the Jordan River beside the Lake of Galilee (680 feet below sea level), lay the larger cities of Capernaum and Tiberias. Beyond, to the north and east, lay the territory of the heathen, and to the south that of the Samaritans. The word Galilee meant "the circle"—of the Gentiles—for it was surrounded by heathen cities and tribes (Matthew 4:15). It was natural that Jesus' deep piety, learned from his people and nurtured on the Holy Scriptures, and his complete personal consecration to the will of God, should be combined with an attitude of friendliness and sympathy for strangers, for the poor and outcast, the religiously neglected people of Galilee (the Galilean *am ha-arez*), and the masses of the surrounding heathen, whom many good Jews of the time despised as "outside the Covenant" and hopelessly lost in idolatry, superstition, and evil ways of life. Thus Galilee was the perfect setting for the life and ministry of the compassionate, friendly Jesus whom we know from the Gospels.

Ministry.—About the year 26 or 27 A.D. the Jewish people were startled by the voice of one more prophet like those of the Old Testament—John the son of Zachariah, whose message was a threat of impending judgment and a command to repent and be baptized before the arrival of the day of doom (Luke 3:1-20). John's message began where that of the prophet Malachi had left

off (Malachi 3-4); many persons thought John was the returning Elijah predicted by Malachi, whose coming was to precede the end of the age. Along with the multitudes, Jesus also journeyed to the wilderness and received John's baptism (Mark 1:9). This step, followed at once by the profound spiritual experience of his prophetic calling and designation or appointment as Son of God (Mark 1:10-11; compare Romans 1:4), and then by the ordeal in the wilderness where his implicit obedience and utter trust in God were put to the severest test (Matthew 4:1-11), marked the beginning of his public ministry. Returning to Galilee after John's imprisonment, he now began his brief career of preaching, teaching, exorcism, and healing (Mark 1:14f.).

The main subject of his public message was the Kingdom of God, the perfect Reign of God which was about to come upon the earth. Whereas John had proclaimed the terrors of the Lord, in describing the approaching judgment, Jesus announced the gracious and merciful act of God in bringing His Reign to pass. Jesus' mission was to win men to prepare for the coming of God's Kingdom, so that they might share in it when it came. He taught his disciples to pray daily for its coming (Matthew 6:9-13), and to fit themselves for membership in it by prayer, forgiveness of injuries, love of enemies, and by following a way of life which consisted in imitation of the character of God (Matthew 5:3-16, 43-48). The Sermon on the Mount (Matthew 5-7) also expounds Jesus' attitude toward the Mosaic Law, which he did not intend to discard or abrogate but to complete and "fulfill" (5:17-20) by both deepening its motivation and widening its application. The chief motive which he stressed was love (as in Luke 10:25-37), not only of friends, family, and neighbors, but of strangers, and even of enemies. The true servant of God must not only obey the Law in its literal sense, but must go beyond it in a higher obedience—not only making good his sworn promises, but speaking the truth even without an oath; not only refusing to resist personal insult and injury, let alone retaliate, but overcoming all resentment; not only being strict and discreet in behavior toward his neighbor's wife, but avoiding even the unguarded look; not only innocent of the overt act of murder, but refusing even to call names or revile or despise his neighbor (Matthew 5:21-48). True observance of the spirit of the Law and likewise the genuine practice of piety (of the Pharisaic type) equally rule out ostentation as a deadly kind of hypocrisy or playing at religion (Matthew 6:1-24). Above all, the man who really trusts God will not be filled with anxiety and care (6:25-34), and his sincerity will keep him humble in his relations with his fellows (7:1-12). It is easy to lapse into a perfunctory practice of religion; true religion is under a much more rigid and more thorough-going demand, and has a far more secure foundation than the routine piety of the professionally religious (7:13-27).

There are certain modern theories which tend to reduce the severity of Jesus' "heroic" ethics, for it is thought that his teaching is impracticable or impossible to observe. One is that it was only an interim ethics, required during the brief interval between the difficult present state of the world and the glorious future when God's will was expected to prevail everywhere. Another theory is that Jesus purposely set the goal too high for men to reach by proclaiming "the pure

will of God" without any concessions to weak human nature; his purpose was to force men to admit their sinfulness and recognize their total dependence upon divine mercy and grace. But the chief defect in both theories is that Jesus nowhere suggests either idea, that similar "heroic" ethics were to be found in the Jewish apocalyptic books and elsewhere, and that most Christians have always assumed that Jesus' teachings were meant to be observed, with the result that many have achieved sainthood by the help of divine grace. That Jesus' teachings were addressed to people who lived at a dangerous time in an occupied country or under the pressure of increasing local tyranny is perfectly clear. Nevertheless his strongest appeal is not to avoid conflict with the authorities (Matthew 5:22, 25f., 38-42), but to be like God, the Father in heaven (5:43-48); not to fear the coming Judgment (7:21-23), but to love and trust in God (6:25-33, 7:7-12).

Miracles.—The deepest impression we gain from the Gospels is that Jesus not only taught a new way of God (Mark 12:14; compare John 3:2), as a prophet, teacher, and revealer of the truth, but himself lived by these standards, so truly that later disciples could even refer to Jesus himself as "the Way" (compare John 14:6; Hebrews 10:20). He purposely devoted himself to the poor, neglected, and often despised common people (Mark 2:17, 6:34; Matthew 10:6, 15:24). He gathered a company of disciples to whom were given the Kingdom (Luke 12:32) and its secrets (Mark 4:11). His ministry of healing and exorcism was exercised among the poor peasantry and villagers of Galilee, rather than among the well-to-do hierarchy in Jerusalem, or the rich landowners of Judea. He even ministered on occasion to Samaritans and Gentiles (Luke 9:52, 17:16; Mark 7:26; Matthew 8:5-13). His miracles were chiefly those of healing (Mark 1:29-31, 40-44, 2:1-12, 3:1-5) and exorcism (Mark 1:21-28, 32-34, 39), in both of which activities he saw the evidence of the defeat of Satan and the advance of the Kingdom of God (Mark 3:23-27). His own interpretation of his mighty works was simply, "If it is by the finger of God that I cast out demons, then the Kingdom of God has come upon you" (Luke 11:20; Matthew 12:28).

The presupposition of this saying—and of many others—is that God's Kingdom must "come" and thus take the place of (or crowd out) the reign of evil in this world. The view that sickness, suffering, chronic disease (especially mental), and even death were due to the presence and activity of evil spirits (or demons) was widespread in the ancient world. God had created the heavens and the earth and had pronounced them good (Genesis 1:31), but sin had entered and corrupted them, and the evil spirits had now gained a firm and increasing control. This is the view found in such writings as I Enoch, the Testaments of the Twelve Patriarchs, and other Jewish apocalypses. See *BIBLE—Growth of the Old Testament Literature* (The Pseudepigrapha). Thus, in spite of the fact that God's Kingdom (or Reign or Rule) is everlasting (Psalm 145:13), it must nevertheless "come" here in this world. The consequences of its coming would be the suppression of the revolt of human sinfulness, together with the evil activities of the wicked spirits—the end of suffering, death, and disaster, and the full establishment once more of God's complete sovereignty. Jesus viewed his own min-

istry of healing and exorcism in the light of this view of God's coming Reign. The Kingdom was already on its way; God's Reign was already in process of realization; his own ministry and also that of his disciples (Mark 6:7; Luke 10:9, 17-20, 23f.; Matthew 11:2-6, 12:29) proved that the powers of darkness were now in flight.

It is impossible to rule out all of the miracle stories in the Gospels as later accretions to the narrative. It is true, some of these stories show a more advanced stage of development in oral tradition than others—some are far more circumstantial and detailed, and contain side references to later issues; but as a whole they reflect the same character in the one who performed them, and are his only sign of authority or power. A sign was requested by his contemporaries, the scribes and Pharisees who opposed him; but the only sign he gave was himself, his disciples, and his ministry among the poor (Mark 8:12; Luke 11:29f.).

Much of Jesus' teaching was delivered in the synagogues, where any qualified layman could be chosen to expound the Scripture as read at the Sabbath service. After a time his followers became so many that he taught in the open country, on the hillsides or beside the Lake of Galilee. His usual method of teaching was largely by parable or illustration; the Gospels are full of these illustrative stories, the point of which is usually some phase of the coming, or the nature, or the preparation requisite for entrance into the Kingdom of God. (The view in Mark 4:11-12 is thought to be influenced by early church teaching; in Matthew 13:13 and probably in the underlying Aramaic, the purpose was clearly that of every teacher who uses illustrations, parables, or anecdotes, i.e. to enable the hearer to understand better.) After a time he withdrew to the northeast, perhaps under political or ecclesiastical pressure, and here took place the famous confession of Peter, namely Peter's acknowledgement of faith in Jesus as Messiah (Mark 8:27-30), followed by the Transfiguration, which is usually interpreted as an anticipation of his glorified state following the Resurrection, if not as a resurrection appearance which has been shifted back into the period of his earthly ministry (Mark 9:2-9). It is sometimes said that Jesus invited or encouraged Peter's confession of faith, or at least welcomed it. This view is based on Matthew 16:17, which is followed by Jesus' pronouncement of a blessing upon the apostle, and the promise of the building of the church upon Peter, or his faith, or the revelation just given through him. The passage is found only in the later Gospel of Matthew. The older account in Mark is very different. Here Jesus bids the disciples to say nothing about him to anyone; he foretells his own sufferings, death, and Resurrection, and announces that his disciples must likewise be prepared to die (Mark 8:30-38). From Mark, taken alone, one would gather that Peter's belief in Jesus' Messiahship was inadequate—the figure of the suffering Son of Man is substituted for that of the King Messiah in the coming Golden Age.

Opposition to His Ministry.—It is difficult to account for the opposition to Jesus, which finally led to his death. Some have assumed, following the indications in the Gospel of John, that he alienated the religious leaders of Judaism by his supernatural claims; but the representation in John is late, and theological, and full of anti-

Jewish polemic, reflecting the strained relations between Church and Synagogue around 100 A.D. and later. Moreover, the three earlier Gospels offer no such explanation. Instead, it was apparently Jesus' interference with the routine activities of the professional religious leaders, the scribal teachers and their Pharisaic lay followers (Mark 3:22-27), and especially his interference with the settled routine and established abuses in the temple (Mark 11:15-18), that led to the crisis. His incisive criticisms of the scribal traditions (Mark 7:1-23), his fresh reinterpretation of the law (Matthew 5, as above; Mark 10:2-11, 12:18-37), his independent attitude toward the religious teachers themselves (Mark 12:38-40 and Matthew 23:1-39, though the criticisms contain also reflections of later conditions), and finally his open challenge to the priestly hierarchy who were responsible for conditions in the temple—all these were factors in moving the authorities to take action against him and denounce him to Pilate, the Roman governor.

After some months of retirement in northern or northeastern Palestine, Jesus returned incognito to Galilee (Mark 9:30), and continued his ministry among the poor. It is thought that the feeding of the multitude (told in two versions, Mark 6:30-44 and 8:1-10) was not so much a provision of food for the hungry as it was an eschatological sacrament, like a Highland Covenanters' Communion held in some lonely glen, or a Huguenot Lord's Supper in the Cévennes, the purpose of which was to bind together Jesus' followers in view of the impending evil time which was to precede the Last Judgment and the full establishment of the Reign of God. But as he journeyed southward after this event, he was accompanied by the same great crowds as before; and at the triumphal entry (Mark 11:1-10) he was hailed by the populace—or perhaps by his own enthusiastic disciples—as the coming Messiah. The demonstration is described in "royalist" language—although John (12:16; compare 2:22) states that its real meaning was understood only after the Resurrection. His entry into the city was followed at once by his cleansing of the temple (Matthew 21:1-17; Mark separates the two events), in which he spoke with the authority of a prophet and demanded that the divinely established "house of prayer for all peoples" (Isaiah 56:7) should not be made a bazaar or a money-changers' office, even though it was for the convenience of the worshipers, and that no one should casually profane the sacred place by carrying burdens through it (Mark 11:16). The temple authorities hotly resented this interference with their established routine, and engaged him in a series of controversies (Mark 11:27—12:34; compare the earlier series of controversies in 2:1—3:6). In the end it was the Jerusalem hierarchy and the officers of the Roman army of occupation who put Jesus to death, not the Galilean scribes and Pharisees or the ordinary priests living here and there throughout the country; certainly it was not the common people who loved and honored him enthusiastically but were powerless to defend him in the crisis. Above all, it was not the Jewish people as a whole who rejected Jesus and were responsible for his death. The earliest Christians, including the apostles and other leaders of the church, were Jews. "Antisemitism," which existed before Christianity, has twisted the evidence and represented the Jewish people as responsible.

The Gospel of Mark (the earliest of the four).

is written with great dramatic power. It represents the clouds gathering about Jesus, almost from the beginning of his ministry, and also shows him aware of the fate which awaited him in Jerusalem (Mark 8:31, 9:31, 10:32-34, 14:8, 17). Many modern scholars question the detailed predictions of his death, but the probability that he was aware of the prospect of rejection and suffering seems inescapable. The whole point of the story of the Last Supper, as told in Mark, Luke, and Matthew, is that Jesus is about to die (Mark 14:22-25 and parallels), and thus to "enter into his glory" (Luke 24:26). The rite was intended (among other things) to bind Jesus and his disciples together in the face of the impending crisis (Mark 14:25).

Death.—The Passion narrative (Mark 14—15 and parallels) is difficult to harmonize with what we know of Jewish legal procedure in the 1st century (see *SANHEDRIN*). The probability is that Jesus was seized by a group of servants or slaves of the high priest and taken to the high priest's house where a junto of the Jerusalem hierarchy was gathered for the purpose of examining Jesus and framing a suitable charge upon which he could be accused before the Roman governor. (The supreme Jewish council, the Sanhedrin, no longer possessed the authority to execute condemned prisoners.) After many efforts, including the charge that he had attempted (or at least threatened) to destroy the temple, the high priest asked Jesus if he claimed to be the Messiah (Mark 14:53-61; contrast John 18:19, which is far less dramatic). The question was an unfair one, and Jesus could not reply with a simple affirmation or denial. He undoubtedly looked upon himself as God's Messenger, His agent and representative in the final act of setting up the divine Kingdom. His mission had been to "do the works of God" (John 9:4), to reveal God and His will more perfectly to His people, to extend the realm of the divine mercy, and to roll back the powers of darkness and evil (Matthew 10:1, 8, 11:4-5, 12:28). But this was something quite different from the ordinary conception of the role of the Messiah, something vastly more, not less, than the Reign of the Lord's Anointed over a redeemed and exalted Israel. And so his answer pointed away from the office of earthly King Messiah to that of the glorious, transcendent Son of Man (Mark 14:62; compare Matthew 25:31-46), whom God would send on the clouds of heaven to judge mankind at the last day. But this was enough for his ecclesiastical accusers, and in the morning he was denounced before Pilate—not as one more messianic claimant, or as a fanatic who thought himself the predestined Son of Man, but as an active revolutionist and disturber of the peace (Luke 23:1-5) who had stirred up insurrection all over Galilee and Judea and had interfered with the collection of the tribute due to Rome. It was on these false grounds that Pilate, after repeated but half-hearted attempts to enforce justice and release Jesus, finally yielded to the clamor of the mob—which had been stirred up, not by Jesus' old enemies the scribes, but by the Jerusalem priests (Mark 15:10-11)—and ordered him to be crucified. It is obvious that responsibility for the death of Jesus belongs to the Roman procurator, not to the Jewish people, though a small but influential group of the temple hierarchy undoubtedly were guilty of influencing the governor and subjecting him to every possible pressure (John 19:12-16).

The story of the Crucifixion is told in detail in all four Gospels, and is presupposed throughout the whole New Testament. It was a long, slow, agonizing mode of death, chiefly as a result of the drying up of the body, exposed to the heat and the open air. Jesus' death came unusually soon (Mark 15:33-39, 42-45; John 19:33), in contrast to that of the two robbers (probably revolutionists, as Josephus and others used the term). Some persons lingered for days upon the Cross; but by three in the afternoon Jesus had died. Many scholars attribute his speedy death to the sufferings he had already endured throughout the preceding night; others to the intense emotional and mental strain he endured. To the last he had refused to accept the merciful anodyne a kind soldier offered him—sour wine mixed with myrrh (Mark 15:23; charitable women in Jerusalem, it is said, provided this drink for the condemned). To the last he had "loved his own" (John 13:1); the prayer, "Father, forgive them, for they know not what they do" (Luke 23:34), has been called "the sublimest words that ever fell from human lips" (Thomas Carlyle). The cry of dereliction, "My God, my God, why hast thou forsaken me?" (Mark 15:34), has often been misinterpreted, as if Jesus finally died in despair, convinced that God had deserted him, and that his dream of the Kingdom of God and of his own mission was unfounded. But the words are a quotation from a psalm (Psalm 22:1) which emphasizes the utter trust in God of a Jewish saint, even amid torture and torment like that which Jesus was enduring; and it is impossible to believe either that Jesus did not share such faith, or that the early Christians could have told the incident as evidence of God's real abandonment of His Son.

Resurrection.—The climax of the life of Jesus, as related in all the Gospels and presupposed throughout the New Testament, is not his death on the cross but his Resurrection. The earliest evidence is found in I Corinthians 15:3-8 (c.55 A.D.), where Paul lists the appearances of the risen Christ, including the appearance to himself (compare Acts 9:1-9). Paul's language is clearly that of supernatural vision (the verb for "appeared" is a technical term in the Old Testament and elsewhere); in all his epistles he represents Christ as risen from death and exalted to a new and heavenly plane—not merely resuscitated and returned to the conditions of earthly life. "Christ being raised from the dead will never die again; death no longer has dominion over him" (Romans 6:9). "If then you have been raised with Christ, seek the things that are above, where Christ is" (Colossians 3:1). Paul never refers to the story of the empty tomb (Mark 16:1-8 and parallels); the story was doubtless circulated after the time of Paul (Mark was probably written about 68 A.D.). Elsewhere (Luke 24:13-31; John 20:19-29) it is assumed that Jesus' "Resurrection body" is supernatural and incorruptible. Hence it is untrue to the New Testament to describe Jesus' Resurrection in terms simply of reanimation or restoration from death, like that of Lazarus (John 12:1-11) or the daughter of Jairus (Mark 5:35-43) or the widow's son at Nain (Luke 7:11-17) or the Old Testament worthies restored to life by touching the body of a prophet (II Kings 4:32-37, 13:20-21). Here was something new and different, the foretaste, indeed the beginning, according to the earliest disciples, of the New Age, the life of the world to come, Christ the "first fruits of those who have

fallen asleep" (I Corinthians 15:20) and are now "raised to newness of life," a new transcendent kind of life in the "spiritual body."

The Meaning of His Life.—The once-popular notion that the church's faith in Jesus as the Incarnate Son of God, the Revealer of God and the Redeemer of men, is based either upon his miracles, recounted in all the gospels, or upon his overwhelming claims, set forth in the Gospel of John, is a view not supported by the New Testament. None of the epistles lay any stress upon Jesus' mighty works, though they contain references to his earthly life and all of them presuppose it. Paul lays no emphasis whatever upon either the miracles or the claims of Christ; instead, the basis of Christian faith, for Paul, is invariably the character of Christ and his Resurrection, the one, the manifestation in human life of the divine self-giving love of God's true Servant and Son, who humbled himself and became obedient, even to death—even to death upon a cross; the other, the consequence of this act, when God "highly exalted him" and gave him the name (Lord) which is "above every name" (Philippians 2:5-11). The human character of Jesus is by no means lost amid the divine splendor of his glorification. The one who is to judge mankind is the very one who once lived as man upon earth, and died upon the Cross (Romans 8:34), an idea very similar to that in Luke 12:8. As the church made clear when it repudiated Gnosticism (see BIBLIE—*Canon of the New Testament*), the human and historical life, death, and Resurrection of Jesus is the indispensable, inalienable foundation of the specifically Christian faith, namely the faith in God's self-revelation in Christ (compare II Corinthians 5:19). The later theological conception of Christ presupposed his completely human nature, even though he was at the same time divine. The Council of Chalcedon (451 A.D.) defined him as "truly God" and "perfectly man." Still later, the doctrines of Atonement and the eucharist took for granted his complete and perfect humanity. Such modern theories as the "Christ myth" are rejected by all the scientific historians.

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See also the commentaries on the Gospels in such series as *The Moffatt Commentary*, *The Cambridge Bible*, *The Interpreter's Bible*, and *Harper's Annotated Bible*.

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JESUS CHRIST, Logia of. See AGRAPHIA;
OXYRHYCHUS.

JESUS CHRIST IN ART. See **CHRIST IN ART.**

JESUS COLLEGE, Cambridge, England, founded by John Alcock, bishop of Ely, in 1496. It has 16 foundation fellowships, open without restriction to all the king's subjects. Five were of the original foundation and the others have been added by subsequent benefactors. Six of the fellows are required to be in orders. The mastership and one fellowship are in the absolute appointment of the bishop of Ely. To the other fellowships on a vacancy the master and fellows nominate two candidates, one of whom is elected by the bishop. There are numerous scholarships. It was founded on the site of the Benedictine nunnery of St. Radigund, and its buildings, some of them dating from the 12th century, are of great interest.

JESUS COLLEGE, Oxford, England, founded by Queen Elizabeth in 1571 on the petition of Dr. Hugh Price, treasurer of St. David's, Wales, who left lands for the maintenance of a principal, eight fellows and eight scholars. It was intended to be the Welsh college and a number of the scholarships are (unless in default of suitable candidates) restricted to natives of the principality. A fellowship founded by Charles I for natives of Guernsey and Jersey has been converted into two scholarships for natives of these islands or persons educated at Elizabeth College, Guernsey, or Victoria College, Jersey. This was the first college founded under the Protestant regime.

JESUS ISLAND (French *Île Jésus*), Canada, island in the St. Lawrence River, west of Montreal Island. It constitutes Laval County, Quebec Province. Its chief town is Sainte Rose. Area, 84 square miles; pop. (1941) 21,631.

JET, jèt, a mineral, which is found in compact masses so hard and solid as to be susceptible of being turned on a lathe and manufactured into ornamental articles. It has been worked for centuries in Whitby, England. It is found in thin laminations, which subsequently thicken out to two or three inches in the upper lias strata in that neighborhood; a lower bed, from which the best quality is obtained, has a thickness of 20 feet and is known as jet rock. Jet is supposed to have been worked in England as far back as the time of the Romans. Jet rosaries and crosses were common in the Abbey of Whitby when it was a resort of pilgrims. The jet manufactures of Whitby fell away about the time of Queen Elizabeth and were revived in 1800. It is also manufactured at Scarborough, England.

JET PROPULSION. As the name implies, jet propulsion is propulsion by means of a jet. A more accurate nomenclature would be reaction propulsion, since it is actually the reaction to the jet that produces motion.

Reaction propulsion occurs in nature in the squid, a marine creature that propels itself away from enemies by emitting spurts of liquid from an orifice in its body. The basic principle of such propulsion can be applied to any kind of vehicle to produce motion through any medium such as air, water or even solid earth. However practical considerations of efficiency and

cost generally have limited the application of jet propulsion to aircraft of various types. That is the region of use that will be discussed here.

The simplest example of jet propulsion is furnished by an inflated toy balloon. As long as the neck is held closed, the internal pressures are equal in all directions (Pascal's Principle). When the neck is released, there occurs an unbalance of the internal pressures because of the discharge of air. This unbalance produces a force which causes motion of the balloon in a direction opposite to that of the discharge at the neck.

It is important to note that the thrust of jet propulsion is produced and used inside the system. Once the jet is discharged, it is of no further use in producing thrust. It does not, as erroneously believed, push against the atmosphere to produce a thrust. In fact, the lower the atmospheric pressure existing outside the jet, the more efficiently the jet will operate, because it does not have to work against the atmosphere.

To produce jet propulsion, a mass of fluid must be accelerated through an engine and discharged at high velocity through a suitable nozzle. In the process, the fluid experiences an increase in its momentum (the product of mass times velocity); this change in momentum produces a force. This phenomenon was recognized by Sir Isaac Newton, who stated in his second law of motion that force is equal to the rate-of-change of momentum. His third law, which states that action and reaction are equal and opposite, recognizes the fact that a forward thrust is produced by a rearward discharge.

The jet discharge is produced by a source of heat within the engine in two basic ways. First, it may be the products of combustion from a violent chemical reaction of fuel and oxidizer fed in liquid or solid form to a combustion chamber. The best example of this is the rocket motor; a further discussion of this is to be found in a separate article. Second, the jet may be the products of combustion plus additional air resulting from burning a fuel in the presence of a moving airstream.

The desire for increased speeds for aircraft has been the stimulus for the development of jet propulsion. Conventional propellers become less efficient as airplane speeds increase; between 400 and 500 miles per hour, the propeller begins to lose ground rapidly as a means of propulsion and the jet engine takes over.

It should be noted that the propeller is truly a jet-propulsion device. It accelerates a mass of air in a rearward direction and thus produces forward thrust. However, engineering usage has segregated the propeller from the "pure" jet engines, and it is not considered further here.

Jet propulsion for aircraft can be accomplished with one of four basic types of engines: rocket, ramjet, pulsejet (or intermittent jet), and the gas turbine adopted for jet propulsion (commonly known as the turbojet). The majority of all aircraft used the last-named method; only special-purpose aircraft for flight research, or guided missiles, have made any extensive use of the other three types of engines.

History.—The first recorded demonstration of jet propulsion was in the aeolipile of Hero, the Alexandrian philosopher, in the earliest days of the Christian era. The aeolipile was a hollow sphere with two ejection nozzles parallel to the surface and on opposite sides of the sphere.

Steam under pressure was fed to the sphere through one of two hollow pillars which supported it; the sphere was free to rotate about the supports. The steam escaped through the nozzles, producing a jet reaction which revolved the sphere.

Rockets as fireworks and weapons of war were known to the Chinese centuries ago. The sporadic use of rockets as artillery provided the only continuity in the use of jet propulsion between the times of Hero and the Chinese, and the period before World War II.

In between there were many designs for jet-propelled vehicles and for experimental engines. One early suggestion was that of Giovanni Branca, an Italian engineer who devised a rudimentary steam turbine in 1629. The first patent of record for a gas turbine was taken out by John Barber, an Englishman, in 1791. In a work written by Willem Jakob Gravesande to explain Isaac Newton's philosophies as expressed in his *Principia*, a jet-propelled carriage was shown to illustrate the idea of action and reaction. This unusual vehicle has been often attributed erroneously to Newton as his design.

In 1926, a British scientist, Dr. A. A. Griffith, of the Royal Aeronautical Establishment, prepared a paper, *The Aerodynamic Theory of Turbine Design*. This pioneer work indicated that the gas turbine was feasible as a means of aircraft propulsion. Ten years passed before funds were appropriated to build an axial-flow compressor as suggested by Griffith.

Meantime, a British flight cadet, later Air Commodore Sir Frank Whittle, discussed the possibilities of both gas turbines and jet propulsion in his 1928 thesis, *Future Developments in Aircraft Design*. Eighteen months later he combined the two concepts in an idea for the application of the gas turbine to jet propulsion. He applied for his first patent in January 1930; it defined a gas turbine with a centrifugal compressor as a source of a high-velocity jet for propulsion. The British Air Ministry declined to develop his ideas. After serving as a flight instructor and experimental test pilot, Whittle was sent to Peterhouse at Cambridge University by the Royal Air Force on the basis of his excellent record. He continued work on his engines during three years at Cambridge; additional work was done on his designs at Rugby. With private financial assistance, Whittle helped organize the firm of Power Jets, Ltd. in March 1936, and three months later the firm placed an order for the manufacture of an engine to Whittle's specifications with the British Thomson-Houston Company. This engine, the world's first gas turbine for jet propulsion, was tested successfully in April 1937.

In Germany, work had begun in 1936 at the firm of Ernst Heinkel under the direction of Hans-Joachim Fabst von Ohain. By 1938, the German Air Ministry had asked all the German engine firms to begin the development of jet engines. The first engine to be built from this program was the Heinkel HeS-3b. This engine was installed in a special Heinkel aircraft, the He 178. On Aug. 27, 1939, Erich Wahrsitz flew the He 178 in the world's first flight of an aircraft propelled by a gas turbine for jet propulsion. (The world's first flight in a man-carrying, jet-propelled aircraft was made in Germany on Sept. 30, 1929. The airplane was a modified glider powered by Opel rockets.)

In Italy, the Caproni-Campini C.C.2, a highly inefficient but truly jet-propelled airplane, is reputed to have made its first flight about one year after the Heinkel flight in Germany, but no records exist to confirm that. The first recorded flight of the Italian craft occurred when it was flown from Milan to Rome in 1941 for delivery to the Italian experimental airfield at Guidonia.

The British Air Ministry contracted with Power Jets, Ltd. for a flight engine in 1938, to be installed in an experimental Gloster aircraft, the E.28/39. The same year, an experimental turbine-compressor designed along the lines suggested in 1926 by Griffith, was developed at the Royal Aircraft Establishment. The first turbo-jet-powered flight in Britain was made by the late Flight Lieut. P. E. G. Sayer in the E.28/39 on May 15, 1941. Powerplant was the Whittle W.1 engine. Sayer was later killed flying a conventional aircraft.

Two months later, Gen. Henry Harley Arnold, then commanding the United States Army Air Force, initiated a special arrangement between the British and American governments for the shipment of a British turbojet to the United States. The W.1X, which was the forerunner of the W.1 engine and a complete set of drawings for the advanced W.2B turbojet were flown to the United States in September 1941. A small group of Power Jets engineers also went. The data were turned over to the General Electric Company; within six months, an adaptation of the British unit was in production at the General Electric plant at Lynn, Mass. Bell Aircraft Corporation was given an order to build an airplane designed around two of the British-developed turbojets; the first flight of the Bell XP-59 was made in October 1942 with Bell's chief test pilot Robert M. Stanley at the controls.

The stimulus of war speeded jet developments on both sides, but it was not until 1944 that the first operational military aircraft were powered by the new engines. Again the Germans were first; their Messerschmitt Me 262 twin-jet fighters saw action against United States Army Air Force bomber formations early in 1944. Later that year the British activated squadrons of Gloster Meteor fighters, also a twin-jet design powered by Rolls-Royce Welland engines (developed by R-R from the W.2B design). The Meteors destroyed a number of German V-1 guided missiles, but never saw action against enemy fighters.

No American jet-propelled aircraft were in action, although a few Lockheed P-80s were in service before the end of World War II. Their engine was a single General Electric unit designated the I-40, designed for 4,000 pounds of thrust under sea-level static conditions.

After the end of World War II, jet development again advanced rapidly. The British stopped all development of piston engines in favor of concentrating on the gas turbine. Special research aircraft were built in the United States, England, France, and Russia to explore the new realms of flight speeds and altitudes made possible by the new principle of jet propulsion.

By May 1952, the world's first commercial airline service was started by the British Overseas Airways Corporation, with de Havilland Comets, a four-jet transport powered by de Havilland Ghost engines.

First extensive use of jet-propelled aircraft

for military purposes occurred in the Korean police action by the United Nations Forces in 1950. Both sides made extensive use of their first-line fighters powered by the latest jet engines.

In the fall of 1953, the world's speed record was captured and lost in a series of highspeed flights made by military jet-propelled aircraft. Fastest of these was the speed of 754.98 miles per hour, set by Lieut. Col. F. K. Everest, USAF, flying a single-engined North American F-100 fighter. In December 1953, the same type of airplane set an unofficial mark of 1.38 times the speed of sound at a high altitude, the fastest mark set by any aircraft powered by a gas-turbine jet. (In the jet age, flight speeds are often defined in terms of Mach number, which is the ratio of the airplane speed to the speed of sound: 763 miles per hour at sea level, and about 660 miles per hour at altitudes above 35,332 feet). An unofficial speed record of Mach 2.5, about 1,650 miles per hour, was set by Maj. Charles Yeager, USAF in the Bell X-1A rocket-powered experimental research aircraft on Dec. 16, 1953.

Engine Design.—The cycle of operation in a gas turbine for jet propulsion involves only three basic parts: a compression system, combustion system and an exhaust system. Air is taken into the engine and passed through one or more stages of compression. The high-pressure air then passes to a combustion chamber where it is mixed and burned with a fuel, generally a hydrocarbon such as gasoline or kerosene. The burning is a continuous process; it adds tremendous available energy to the moving airstream. The exhaust system functions to make that energy available in a useful form. The air from the combustion chamber impinges on the blades of a turbine which is mechanically connected with the compressor by a long shaft. The turbine absorbs enough energy from the hot gases to drive the compressor; residual energy is used to drive the exhaust out of the nozzle to produce the characteristic thrust of the jet engine.

There are two fundamentally different types of compressors which can be used in a jet engine, and they have given their names to the class of engine. A centrifugal engine uses a centrifugal-flow compressor which admits air near the center of the wheel and compresses it by flinging it outward from the center by centrifugal force. An axial-flow engine passes the air from one stage of whirling blades to another, parallel to the axis of the compressor. In practice, the number of stages of compression will vary from a minimum of about five to eighteen.

Most early engines were developed around the centrifugal compressor because of experience with the type and because it was easier to manufacture. After the end of World War II, the axial-flow engine dominated the field; the change to that type was because of the inherently higher efficiency of axial compression, which reflects in decreased fuel consumption.

There are some special applications of the basic gas turbine for jet propulsion which are of interest. In the turboprop engine, the energy remaining in the gas stream is used to drive a propeller of conventional design. The turbopan engine, sometimes called a ducted fan or bypass engine, consists of a short-bladed propeller or fan operating within a cylindrical cowl and driven by the energy in the exhaust of an other-

wise-conventional turbojet. This fan accelerates some additional air which bypasses the combustion chambers and mixes with the hot exhaust at the nozzle. The chief advantage of the turbopan engine is economy of operation.

In the application of jet propulsion engines to certain types of aircraft, such as transports, a special problem arises because of the engine's tendency to continue to produce considerable thrust after fuel has been cut off. In conventional transports powered by reciprocating engines driving propellers, the propellers are put into reverse pitch to act as additional brakes for the airplane. By changing the blade angles of the propellers to negative values and then speeding up the engine, a "negative" or reverse thrust is produced in a rearward direction, which helps to slow the airplane.

An analogous procedure is not yet available for the jet engine. Instead, attempts have been made to divert the flow from the exhaust jet to a forward direction to produce reverse thrust. One disadvantage has been the mechanical complexity of the scoops or similar devices used to provide the reverse thrust. The design of such scoops is difficult; they must be rugged enough to withstand the hot blast, and must not cause extra drag when in the normal, "off" position.

There are means for augmenting the thrust of a turbojet engine without increasing its size or otherwise changing the design. The injection of fluids such as water, or a water-methanol mix, at the compressor increases the effective mass flow through the engine, and the thrust in proportion. Because of the large amount of excess air available in the exhaust, it is also feasible to burn additional fuel in the exhaust stream. This is called afterburning, or reheat, and in practice can increase the thrust of the engine up to fifty per cent. Both water injection and afterburning are considered emergency procedures for short-time use only.

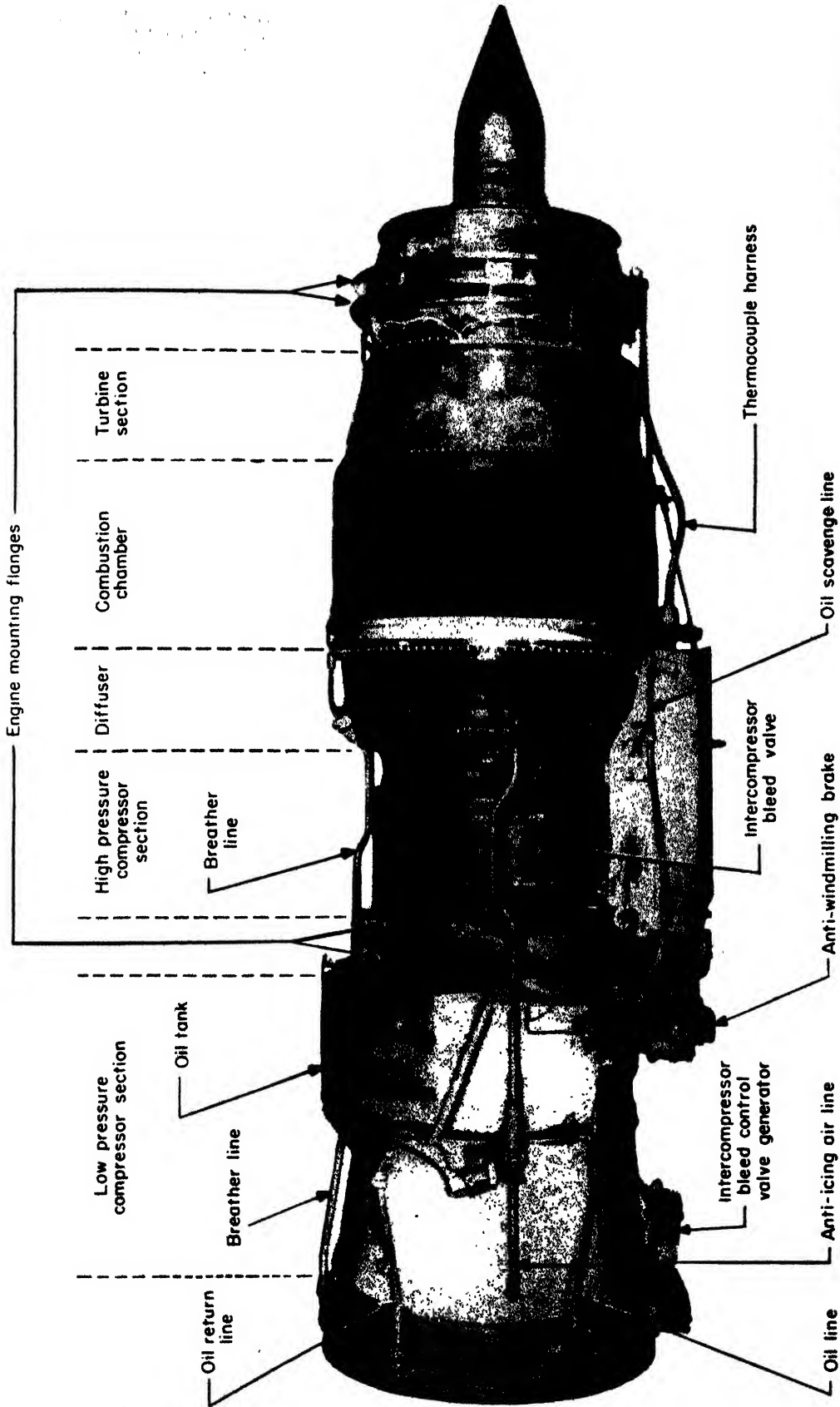
Turbojet engines are normally rated by the thrust, measured in pounds, that they produce at sea level on a standard day under static conditions. It is frequently stated that one pound of thrust is the equivalent of one horsepower at a flight speed of 375 miles per hour; this is only a mathematical equality. It is not possible to give a horsepower equivalent for a jet thrust without also defining a particular flight speed.

Early turbojet engines produced thrust on the order of 1,000 pounds; in 1954, engines which produced 10,000 pounds thrust without afterburning were in quantity production, and experimental engines with test-stand thrusts up to 18,000 pounds had been developed.

Turbojet thrust is not constant over the range of flight speeds. Up to velocities of 200 or 300 miles per hour, the thrust decreases with speed, because of the entering momentum of the airstream. As the airplane accelerates, the pressure of the air at the inlet increases because of the ramming action at the inlet. This ram pressure contributes to the overall pressure rise of the air through the engine, and shows up as increases in thrust with speed. The contribution of pressure rise outweighs the loss attributable to the inlet momentum.

Engine thrust decreases with altitude for a constant flight speed, because of the reduced density of the airstream. Engine efficiency increases with altitude because of the greater temperature difference across the engine and the

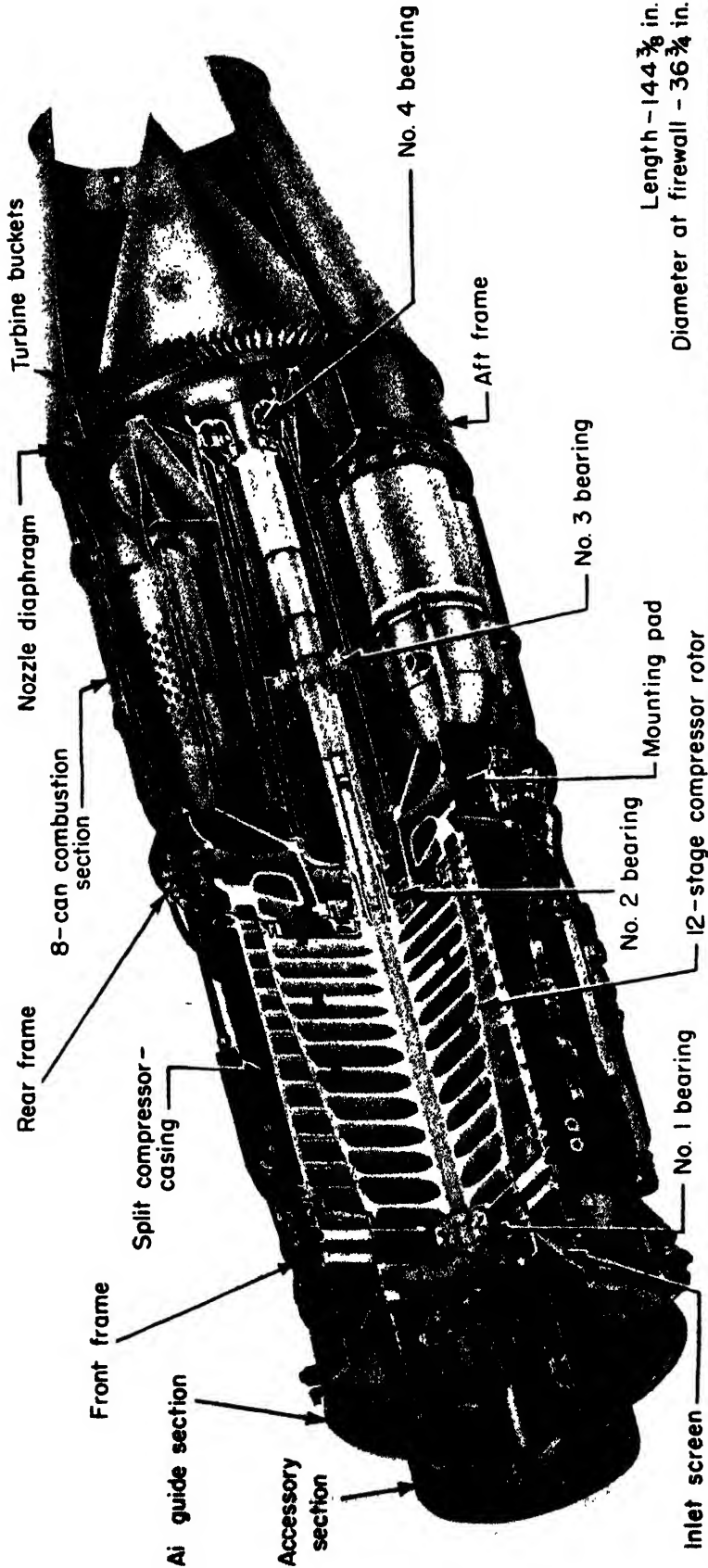
JET PROPULSION



Courtesy Pratt & Whitney Aircraft

Fig. 1. The Pratt & Whitney Aircraft J57 turbojet engine which has been used in a wide variety of aircraft built for the United States Air Force and the Navy. Classified as a "two-spool" engine, the J57 uses a compressor section split into a low-pressure and a high-pressure stage. Thrust rating of the J57 is approximately 10,000 pounds for the early models in the series.

JET PROPULSION



Above: Fig. 3. The General Electric Company J47 turbojet, shown here in a cutaway drawing which reveals the internal makeup of the engine, has seen application in many military aircraft. Rated in the 6,000-pound thrust category, the J47 powered the North American Sabre series made famous in the Korean police action by USAF pilots.

Right: Fig. 2. A Pratt & Whitney Aircraft J57 turbojet with afterburner. The afterburner, which comprises the left half in the power plant picture at right, is an extension of the engine exhaust tailpipe. Additional fuel is sprayed into the afterburner and burns in the hot exhaust gases, providing additional thrust which may almost double the engine power at high speeds.



greater pressure difference through the compressor.

The axial-flow engine has been refined further by what is called the "twin-spool" design. Two separate stages of compression are used, driven by two turbines. The first compressor is a low-pressure stage, and is driven by the second turbine. The second compressor is the high-pressure stage and is driven by the first turbine. The advantages claimed for the type are that pressure ratios can be made higher, and fuel consumptions made lower. The first production engine of this type was the Pratt & Whitney Aircraft J-57, an engine rated at about 10,000 pounds sea level static thrust. A typical modern engine, the J-57 is about 155 inches long and 39 inches in diameter. It weighs about 4,200 pounds. Maximum thrust with afterburner is slightly in excess of 15,000 pounds. Fuel consumption at maximum static thrust is 0.78 pounds of fuel per pound of thrust per hour; for 10,000 pounds thrust, this corresponds to about 7,800 pounds of fuel per hour, or about 1,300 gallons of gasoline. An automobile could be driven for about 19,500 miles with that much gasoline; in an hour's time, a J-57-powered airplane could go about 800 miles.

Fig. 1 shows a side view of the J-57. The thermocouple harness is an assembly of instrumentation for giving the pilot or test engineer the temperatures at any desired point in the engine. The anti-windmilling brake is a device to stop the rotors when the fuel is shut off and the engine stopped. Normally, jet engines rotate at very high speed, and since there is little internal resistance, they continue to turn for a while after the engine has been shut down by turning off fuel and ignition. A brake is desirable to stop the rotor, which would otherwise continue to pump air through the engine, possibly damaging it by picking up foreign matter from the ground, or endangering ground personnel who might get near the engine inlet.

Fig. 2 shows the J-57 engine with the afterburner attached. The afterburner (at left) begins at the left-hand support of the lifted engine. The afterburner nozzle (extreme left) is adjustable by means of the band of hydraulic cylinders which can be seen just ahead of the afterburner nozzle.

Fig. 3 is a cutaway drawing showing the interior details of the General Electric J-47, a typical axial-flow engine. This turbojet was produced in large quantity and powered the North American F-86 Sabre, the Boeing B-47 Stratojet and many other United States Air Force airplanes.

Air enters the J-47 through the annular inlet between the accessory section and the air guide. An inlet screen acts as protection against pebbles or other foreign objects that might be picked up in ground running; these screens can be electrically heated in some engines to prevent ice from forming in the inlets during flight through icing conditions. The air then passes through 12 stages of compression; the length of each compressor blade gets smaller as the air moves toward the rear of the engine. This is because the air takes up less space as it is compressed. Between each set of rotating blades on the compressor wheel are stator blades fixed to the split compressor casing.

The high-pressure air is collected in a section at the rear frame and enters the combustion section. There are eight combustor cans, each with

a perforated inner liner and an outer shell which contains cooling air to keep the metal from deforming or failing under the very high temperature loads.

The heated air rushes out the rear of the combustion cans and into the nozzle diaphragm which serves to direct the hot gas flow so that it impinges on the turbine buckets at the most efficient angle. The gases spin the turbine and are exhausted through the nozzle at the rear of the engine.

Turbine and compressor are connected mechanically by a long shaft supported in four places by bearings. The accessories such as starter and drives for electrical power for instruments are housed in a section at the front of the engine, commonly called a "bullet" because of its shape.

Engines in the J-47 series were rated at better than 5,800 pounds thrust under sea level static conditions, and weighed about 2,500 pounds.

A variety of 20 different turbojet engines were in production in the United States during 1954, with thrusts varying from 1,000 pounds to about 15,000 pounds. Approximately the same number were in production in Great Britain.

Ramjet.—The increase of thrust due to increased ram-pressure rise at high speeds suggests the concept of an engine without a mechanical compressor, or a turbine to drive it. In such an engine, compression is accomplished solely through aerodynamic forces produced by flight speeds.

This kind of engine is called a ramjet (formerly, athodyd, for aero-thermodynamic duct); it was proposed as early as 1909 by the French engineer René Lorin.

Entering air is compressed aerodynamically by the proper shaping of the inlet; fuel is added to the air and burned. The resultant exhaust is discharged through a nozzle. Mechanically, this is a simple engine because it basically lacks moving parts; however, it is much more sensitive to its flight conditions than a turbojet engine. Its fuel consumption is higher than a turbojet, but it is more efficient for extreme speeds in the earth's atmosphere. Because of its dependence on compression generated by aerodynamic forces, it will not function below a flight speed on the order of several hundred miles per hour, and must be launched to this speed by an auxiliary engine, generally a booster rocket.

Applications of the ramjet engine have been confined to missiles and to a series of man-carrying test aircraft and military prototypes built by the French engineer René Leduc.

Pulsejet.—Basically similar to a ramjet in that it has no moving parts or mechanical compressor, the pulsejet uses intake valves shaped like the reeds in a harmonica. These valves open and shut by differences in pressure to admit air to the intermittent combustion process. Valve action is controlled primarily by resonance, the same sound phenomenon that makes an organ pipe emit a tone.

This engine can be produced cheaply, although the valves have a short life and need frequent replacement. First application of this type of engine was in the German V-1 (Vergeltungswaffe Eins) buzz-bomb, a guided missile which became operational against the English Channel ports and other British targets in the summer of 1944.

Future of the Turbojet.—From a scientific

curiosity, the turbojet engine has grown to be a prime mover for military and some commercial aircraft where speed is the primary consideration. With proven ability to propel airplanes faster than the speed of sound at high altitudes, the turbojet appears to be a satisfactory powerplant to velocities as high as 1,300 miles per hour, or approximately twice the speed of sound at high altitude.

Above those speeds, jet engines such as the ramjet and the rocket begin to be feasible; the increased cost of operation attached to these types is more than balanced by their unique abilities to produce high speeds and thrust.

The overall advantage of the turbojet is that it produces a very high thrust for a relatively light weight within small envelope dimensions. These characteristics make it the powerplant for military aircraft of many types, where the ability to extend striking power at great speed is the foremost consideration. For those reasons, the turbojet has found increasing favor with military aircraft designers; it powers the majority of all fighters, bombers, attack and interceptor aircraft, as well as several types of guided missiles.

The current achievements of supersonic speeds reached by combat-ready aircraft powered by turbojets point to even higher speeds in the near future. Aeronautical engineers believe that jet-propelled military aircraft will be operating at speeds twice that of sound in a few years.

Commercial air transportation using jet-propelled airplanes has provided enough experience to show that much of the future traffic in the air, whether military or civil, will be carried in airplanes powered by gas turbines, probably turbojets.

Other forms of transportation are not compatible with jet propulsion as described here. Experimental vehicles of several types, including boats and automobiles, have been built, but have not been greatly successful. This is because the jet engine is a highspeed engine, and its efficiency is very low at low speeds. Furthermore, the fuel consumption associated with such inefficient use of the engine becomes too great for any economical operation. There is little evidence that there will ever be jet-propelled trains, automobiles, trucks or boats.

There will be, and in fact, are, such vehicles powered by a gas turbine, adapted much like the turboprop engine, to expend its powers through gears and a mechanical linkage, instead of through a highspeed jet of exhaust gas.

Turbojet engines have been used to drive wind tunnels by the ejector principle. The high-velocity blast from the engines induces additional air to flow along with it, and provides both the volume and speed of air necessary to test high-speed models. This is the only current non-flight use of the engines where any kind of efficient operation has been shown.

The replacement of the combustion section by a nuclear reactor as a heat source appears to be feasible in theoretical analyses of jet engines. In this application, there are many special problems posed by the reactor, such as shielding personnel from dangerous radiation emitted by the reactor itself, and by the air heated by its passage through the reactor. Such an engine would be massive, at the current state of the art, but it would be capable of keeping an aircraft in the air for a period limited only by

human endurance. Fuel consumption would be negligible.

DAVID A. ANDERTON,
Engineering Editor, "Aviation Week."

JETSAM, jět'sām, merchandise lost at sea either through being thrown overboard in the act of "jettison" (q.v.), or through the sinking of the ship. The term differs from "flotsam," goods which float after being thrown overboard; and from "lignan," when they are sunk but secured to a cork or buoy to permit future recovery. Goods lost in this way come under the law of average and their value may be recovered by the owner.

JETTE, zhě-tā', **SIR Louis Amable**, Canadian editor, jurist and statesman: b. L'Assomption, Province of Quebec, Canada, Jan. 15, 1836; d. Quebec, May 5, 1920. He was educated at L'Assomption College and was called to the bar in 1857. He engaged in the practice of law at Montreal and also in journalism, becoming editor of *L'Ordre*, at Montreal. He was elected to the House of Commons for Montreal (East) in 1872-1878. He became professor of civil law in Laval University in 1878 and in that year was appointed judge of the Superior Court of Quebec. In 1898-1908 he was lieutenant-governor of Quebec. In 1901 he was knighted. A member of the Alaskan Boundary Commission in 1903, he was one of the commissioners who dissented from the award of the tribunal. In 1909-1911 he was chief justice of the Court of King's Bench, Quebec.

JETTIES, jět'iz, are dikes at the mouth of a river or across a harbor bar to increase the riverine or tidal current by narrowing the channel and thus scour out a deeper bed, to accommodate navigation. Single jetties are solely at the mouths of rivers with strong currents, to deflect these to one side of its natural channel, but in most rivers and in all harbors they are double, forming an entire artificial channel. Briefly, the physical principles are: The power of water to transport solid matter varies as the square of its velocity, so that increasing the strength of current two-fifths will about double its sand-carrying capacity; the velocity increases with increase of slope and decrease of friction; the slope is increased by narrowing the channel, since it forces flood waters inside or outside to rise higher at the entrance, and the friction decreases as the width of the channel increases; and if a channel of a given depth and width passes a given quantity of water, then a narrower channel involves either a permanently greater height of water if the bed were rigid, or the scouring of the bed to a depth which, multiplied by the new width, will produce an equal cross-section with the old. The increased slope and the correspondent velocity vanish as the water cuts a deeper basin; but the velocity due to lessened friction does not, nor do the deepened channel, the greater discharge through it and the greater tidal fluctuation due to the larger basin. The channel is scoured along until the deepening sea establishes an equilibrium of action.

The system is not new. A number of important European rivers were jettied in the middle 18th century. In the United States a very great number have been constructed, both for rivers and harbors; the greatest of all are the jetties at the mouth of the

Mississippi, and as the general principles are alike in all, these may be briefly described.

The Mississippi discharges its waters to the gulf not by one channel, but in the main by three, running through "passes" 12 to 17 miles long from the delta land to the sea and widely divergent. The largest is the Southwest Pass; next the easternmost, Pass à l'Outre, with two branches. In the middle is the smallest, South Pass, 600 to 800 feet wide, and taking not over a 10th the total discharge, with a shoal at its head only 15 feet deep, and a bar at its mouth only 8 feet; so that, with 30 feet of water through the delta, it was unserviceable for deep-water navigation. Capt. James B. Eads offered to build jetties to deepen the bar at Southwest Pass from its then 13 to 28 feet; but Congress preferred South Pass as cheaper and simpler, needing work only at the head and foot. Work was begun in June 1875 and within nine months the water was 13 feet on the bar; by 1879 it was 29 feet; it is now over 30.

The west side of the pass had silted up into land 4,000 feet farther out than the east, so that the west side of the two parallel dikes built out to 30 feet depth in the Gulf was about 7,800 feet, while the east was 11,800. First piles were driven in two rows 1,000 feet apart (the piles 12 feet apart) to mark the lines of the projected jetty-walls. Then mattresses were built, of willow branches, or young willows 15 feet long, cut with the leaves on, laid in four courses, each crosswise to the next and fastened together at top and bottom by pine planking $2\frac{1}{2}$ inches thick, doweled with hickory pins; this compressed the willows to a thickness of about 2 feet and their brush-ends projected 3 or 4 feet. These mattresses were 100 feet long; for the bottom course they were made 50 feet wide, but steadily narrowed for each of the four courses at first needed to bring them to the surface of the water, the top one being 20 feet wide. Wider ones were used in deep water. These were built on shore, on ways as for launching boats; towed by tugs to the places indicated by the line of piles and sunk by loading one or two tons of stone on top. Once down, they speedily filled with sediment and became solid. At the sea end foundations of mattresses 200 to 300 feet broad were laid. For two or three years these stone-laden mattresses gradually sunk in the soft bottom and new ones were added at the top to bring the surface even. The willows not imbedded in sediment were riveted with stone. Where exposed to storms, they were considerably sloped and more thoroughly riveted. The sea ends were afterward capped with concrete blocks. The jetties have undergone considerable repairs since then, but have essentially done their work of making the river navigable for large vessels.

One of the difficulties was this: If obstacles were placed in the way of a free flow of water, the river would by so much at least desert this pass and run through the others; so that their heads had to be closed up to a sufficient extent to prevent this. Plans for improving the Southwest Pass in like manner were submitted by United States army engineers. Construction was begun toward the end of 1903 and completed five years later at a cost of about \$2,625,000. The east jetty was extended for 3,000 feet and the west for 3,750 feet in 1909-12. The final depth gained is 35 feet.

At the mouth of the Brazos, west of Galveston, Tex., an ingenious plan was adopted for avoiding interference in the work by flood-tides: A long trestle was built out to deep water above high tide, the mattresses hung under it by ropes and the stone dropped on them from above to sink them. Instead of being launched from shore and towed, they were carried on a portable railway running on top of the trestle and let down.

The Columbia River jetty is the most conspicuous example of the single instead of the double dike. It is $42\frac{3}{4}$ miles in length, the longest in the world. The bar at the mouth of the river, ever shifting and sometimes not over 12 feet deep, had half spoiled this superb river for navigation, and was greatly dreaded. But the river has a mean high-water discharge of 60,000 cubic feet per second, a mean tidal ebb of 1,000,000, with tides of 6.2 feet; and in 1884 a single curved line of brush mattresses with rubble-stone copings was begun, completed in 1894, to turn the current away from spreading itself on both sides and scour out the channel on one. This was finished in 1894 with a channel 30 feet deep and made the river a highway of the heaviest ocean commerce, with lines to all Pacific lands. The improvement was not permanent and in 1902 the channel was only 21 feet in depth. In 1903 a north jetty $2\frac{1}{2}$ miles long was projected, together with a $2\frac{1}{2}$ mile addition to the south jetty. These additions were completed in 1913.

Others are too numerous for more than brief mention. At Yaquina Bay, Ore., 115 miles south of the Columbia—an estuary 20 miles long discharging into the sea through a narrow, tortuous, shifting channel, and over a sand-bar with 7 feet of water—parallel jetties about half a mile long, one of rubble-stone on a rock bed, one of brush and stone on a sand bed, have doubled the depth of water and made the channel calculable. At Galveston, the single jetty was a relative failure, it needing a double one to converge the tides; and in 1896 the government completed it, with sides of 35,000 and 25,000 feet, costing over \$8,000,000, and furnishing 27 feet of water between the island and the mainland. Other notable ones are at the mouth of Saint John's River, Florida, beginning at the sides of the river-mouth and converging to 1,000 feet apart at the crest of the bar. Charleston's double one has sides of 15,000 feet each.

Consult Corthell, E. H., 'The Mississippi Jetties' (New York 1881); Haupt, L. M., 'Jetties for Improving Estuaries' in *Journal of Franklin Institute* (Philadelphia 1888); Perilli, 'Jetties of Armored Concrete,' in 'Report of International Congress on Navigation' (Brussels 1905), and 'Transactions of the American Society of Civil Engineers' (Vol. LIV, Part A; New York 1905). Consult also *Engineering News* (New York 1874 et seq.), especially nos. of 23 Aug. and 4 Oct. 1900, and 'Reports' of Chief of Engineers, United States Army (Washington, D. C.).

JETTISON, the throwing overboard of goods constituting a ship's cargo in order to lighten the load of a ship in distress, to save her from foundering, float her when stranded, or permit her to escape from an enemy. In such cases the loss to the individual owner is compensated by a general contribution levied

under the rule of general average upon the owners of the remaining cargo, freight, and ship, for whose benefit the merchandise was sacrificed.

JEUMONT, zhù-môn, commune, France, located in northern France in the Department of the Nord, on the Sambre River 6 miles east-northeast of Maubege. It is a customs station on the Franco-Belgian border. Important industries are glassworks and manufacturing of electric cables. Pop. (1946) 6,008.

JEUNESSE DOREE, zhù-nés' dô-râ', in French history, the name given to a band of counterrevolutionists active against the Jacobins after the fall of Robespierre and the end of the Reign of Terror in 1794. They first became prominent in the following year, during the last months of the National Convention, and continued their royalist activities under the Directory. Its members were youthful scions of aristocratic families. The name and its English translation, "gilded youth," have been used as a designation for wealthy young idlers.

JEVER, yā'fūr, town, Germany, located in the state of Lower Saxony in the northwestern part of the country, 10 miles west-northwest of Wilhelmshaven. It is a rail junction and its industries include woolen milling, brewing, and meat processing. The surrounding area raises livestock and dairy products, and Jever is a trading center for these products. Pop. (1946) 10,342.

JEVONS, jěv'ünz, (Herbert) Stanley, English economist: b. Oct. 8, 1875; d. London, England, June 28, 1955. Son of William Stanley Jevons (q.v.), he was educated at University College, London, and Trinity College, Cambridge University. From 1902 to 1904 he lectured on mineralogy and geology at the University of Sydney, Australia. After a year of travel in China, Japan, and North America, he returned to England. He was professor of political science and economics in the University College of South Wales and Monmouthshire, Cardiff, Wales, from 1905 to 1911. During the period from 1911 to 1914 he studied housing reform. From 1914 to 1923 he was professor of economics at the University of Allahabad, India, and from 1916 to 1922 was editor of the *Indian Journal of Economics*. In 1923 he became professor of economics at the University of Rangoon, Burma, continuing until 1930. From 1932 to 1937 he was on the council of the Royal Statistical Society. During World War II he was chairman in 1943-1945 of the Bombing Restriction Committee. He served from 1952 to 1954 as treasurer of the Anglo-Ethiopian Society, becoming in 1954 editor of that organization's *Proceedings*.

Among his publications are *Essays on Economics* (1905); *The British Coal Trade* (1915); *Money, Banking, and Exchange in India* (1922); and *Economic Equality in the Co-operative Commonwealth* (1933). He also has written many articles on mineralogy, economics, politics, housing reform, and edited some of his father's works.

JEVONS, William Stanley, English economist and logician: b. Liverpool, England, Sept. 1, 1835; d. by drowning, near Hastings, Aug. 13, 1882. His studies at University College, London, began in 1851, but family financial troubles led to his withdrawal from college in 1853. In 1859

he resumed his formal education, and in June 1862 he passed the master of arts examination of the University of London. He was assayer of the mint in Sydney, Australia, from 1854 to 1859. In 1863 he became a tutor at Owens College, Manchester, England, and in 1865 lecturer in logic and political economy at the same institution. In the following year he was made professor of those subjects and of mental and moral philosophy. From 1876 to 1880 he was professor of political economy at University College.

The writings of Jevons fall into three groups: those on practical economics; those in which he developed his system of logic; and those in which he explained his economic theories. In the first group is *A Serious Fall in the Value of Gold* (1863). Two years later Jevons published *The Coal Question*, a book which led to establishment of a government commission for studying England's coal reserves. These studies, filled with compilations and analyses of statistics, are particularly characteristic of his early work. Other studies in applied economics include *Money and the Mechanism of Exchange* (1875), *Primer on Political Economy* (1878), and the posthumous *Investigations in Currency and Finance* (1884). The last contains Jevons' sunspot theory, relating period of economic crisis to the phenomenon of spots on the sun. His original statements have been too broadly interpreted and misunderstood, as he merely pointed out the close correspondence between sunspot activity and the onset of economic crisis.

Jevons' exposition of his theory of logic began with *Pure Logic* (1864). This work owed much to the combination of mathematics and logic worked out by George Boole (1815-1864). A logical machine constructed by Jevons was exhibited in 1866. This device was built to illustrate his ideas about the mechanical bases of reasoning. *The Substitution of Similars* (1869), *Elementary Lessons in Logic* (1870), and *Principles of Science* (1874) are other important works of Jevons on logic. In all his work in this field, Jevons employed his knowledge of natural science, using specific illustrations of physical phenomena to help explain his abstract ideas.

As a theoretician, Jevons occupies an important place in English economics as the formulator in his country of the theory of marginal utility, notably in *Theory of Political Economy* (1871). Drawing on Jeremy Bentham for his concept of degrees of utility, Jevons freed English economic thought from the domination of John Stuart Mill, particularly in the realm of value determination. He used mathematics to establish the relationship between value and utility. The marginal utility doctrine was simultaneously formulated by other thinkers in different countries, and it had been anticipated in Germany by Herman Heinrich Gossen (1810-1858), but Jevons reached his conclusions independently and unaware of this other work. See also *ECONOMICS—Marginal Utility School*.

JEW OF MALTA, The. Christopher Marlowe's *Jew of Malta* is memorable for at least three reasons. It was the most popular play of its period, if not the most popular English play up to that time. So far as is known, the plot was entirely original. Its chief character Barabas is the English prototype of a series of popular English characters, of which Shylock, Volpone and Sir Giles Overreach of Philip Massinger's *A New*

Way to Pay Old Debts (1632), are noteworthy.

As Marlowe proceeded in the handling of plot he laid aside that "alchemy of eloquence" upon which he had depended. The main situation of *The Jew of Malta* arises still from a vaunting spirit. Barabas in his opening soliloquy shows "infinite riches in a little room" to be his ambition. But the ambition is so crowded in the action that it is difficult to distinguish it from the blood lust so popular in the plays of the day.

The play was probably produced about 1589, the part of the Jew being taken by Edward Alleyn. It is first mentioned in Philip Henslowe's diary in 1592, and was not printed until 1633, when it was given to the world in an edition by Thomas Heywood. As the play comes down to us it reveals very hurried composition. The first two acts are as precise as is the following play *Edward II*. Thereafter the action becomes confused and crowded. Action follows action with little regard for motive and sequence. Barabas outlives a dozen deaths. More strangely still this portion lacks the magic of Marlowe's line. And yet there is no doubt that this second portion gave the play its popularity. Two characters stand out to appear again in the plays of later writers, Barabas, villain beyond nature, and Abigail, his daughter, who by her virtues shames the house that reared her.

THOMAS H. DICKINSON.

JEWEL, jōō'ēl, John, English bishop: b. Buden, Devonshire, England, May 24, 1522; d. Monkton Fairleigh, near Laycock, Wiltshire, Sept. 23, 1571. He was educated at Merton and Corpus Christi colleges, Oxford, and was elected a fellow of Corpus Christi in 1542. He was greatly influenced by the teachings of John Parkhurst, later bishop of Norwich, and he was a follower of Peter Martyr who was professor of divinity at Oxford from 1547 to 1553. Jewel is known to have been a licensed preacher in 1551, and he had made a considerable reputation as a teacher. Upon the accession of Mary I in 1553 all those suspected of Protestant leanings were weeded out of Oxford, and Jewel was deprived of his fellowship. He made his way to the Continent, reaching Frankfurt in 1555. He was associated with Richard Coxe in his controversy with John Knox and later joined Peter Martyr in Strasbourg, with him visiting Zurich in 1556 and soon after Padua.

Returning to England on the accession of Elizabeth I in 1558, Jewel was one of the Protestant clergymen selected as a disputant at the Westminster conference with the Romanists in 1559. He was consecrated bishop of Salisbury on Jan. 21, 1560, and soon became prominent as official spokesman for the Protestant Church as it was being reconstituted under Elizabeth. His *Apologia pro Ecclesia Anglicana* (1562) was quickly accepted as the definitive statement on England's religious position and was the basis upon which all later debate of the subject was built. Jewel engaged in a famous controversy concerning the case of the Church of England as against that of Rome, first with Henry Cole and later with the more formidable Thomas Harding (1516-1572). Harding, who had fled to the Continent when Elizabeth became queen, made his initial attack on Jewel in 1564 with his reply to a sermon preached by Jewel four years previously. Before Harding saw Jewel's rebuttal he published in 1565 another attack, this time on the *Apologia*,

to which Jewel also replied. The exchange over various points continued until 1567, Jewel's writing being very methodical and dealing with Harding's arguments point by point. His works have no literary style because of this preciseness, but they were persuasive and their tone helped mould the thinking of Anglican theologians of later times. The collected writings of Jewel were prepared under the direction of Richard Bancroft, archbishop of Canterbury, and published in 1609.

JEWEL CAVE NATIONAL MONUMENT, South Dakota, located in Custer County about 14 miles west of the town of Custer in the Black Hills in the southwestern part of the state and covering an area of approximately two miles. The monument consists of a series of underground caverns and passages lined with calcite crystals. The cave was made a national monument in 1908.

JEWELL, jōō'ēl, Marshall, American industrialist and politician: b. Winchester, N. H., Oct. 20, 1825; d. Hartford, Conn., Feb. 10, 1883. From 1847 to 1850 he was in the telegraphy business. On Jan. 1, 1850, he became a partner in the leather-belt business of his father in Hartford, Conn. His duties with the firm took him on extensive travels through the United States and Europe. He entered politics in 1867, but was not successful in his campaigns for public office until 1869 when he was elected on the Republican ticket as governor of Connecticut. He was elected again to this office in 1871 and 1872. In 1873 he was appointed by President Ulysses S. Grant as United States minister to Russia. From 1874 to 1876 he was postmaster general of the United States. He was chairman of the Republican National Committee at the time of his death.

JEWELL, Theodore Frelinghuysen, American naval officer: b. Georgetown, D.C., Aug. 5, 1844; d. Washington, D.C., July 26, 1932. He graduated from the United States Naval Academy in 1864, but he had already been called to active duty because of the Civil War. On Nov. 28, 1861, he was appointed an acting midshipman, and in June and July 1863 he was in command of a naval battery of field howitzers in defense of Washington. In 1866 he was commissioned ensign, thereafter serving on various foreign stations. In 1889 he became president of the Naval War College, Newport, R. I., and from 1890 to 1893 he commanded the naval torpedo station at the same place. From 1893 to 1896 he was in command of the naval gun factory at the navy yard in Washington, D.C. During the Spanish-American War he was in command of the United States cruiser *Minneapolis* in the West Indies and later of the cruiser *Brooklyn* in the Philippine Islands. He served as a member of the Naval Examining Board, and in 1904 was commander in chief of the European Squadron, having been promoted to rear admiral the same year. He retired on Nov. 22, 1904. Jewell was the author of numerous technical papers, particularly dealing with naval ordnance.

JEWELRY. Jewelry making is an art, almost as old as the history of man. The earliest objects known to have been intended as personal ornaments were made of stone, bone, or shell, and date back to the Stone Age. Needles and fibulae served useful purposes in fastening clothing, whereas beads and pendants were intended for

adornment or as charms, to protect the wearer from mysterious powers; in later times the material as well as the form of amulets was often considered efficacious. Thus the joy of personal embellishment, superstition, and practical considerations were closely linked in the making of jewelry.

Among the first gold objects worn as ornaments are those from the Tigris and Euphrates valley, made about 2500 B.C., and found in Sumerian tombs of Ur. They reveal a variety of skillfully applied techniques, including casting, engraving, *repoussé* filigree, and granulation. Mesopotamian cylinder seals, made of semiprecious stones or glazed pottery from about 3200 B.C. on, are of particular interest, since they are the ancestors of classical Greek and Roman engraved gems, which had an almost uninterrupted continuance to modern days. Bronze ornaments with animal motifs, forming pins, bracelets, and useful implements, including the well-known horse-trappings from Luristan in western Iran, were made during the 1st century B.C., often inlaid with lapis lazuli and turquoises.

By far the most complete record of jewelry survives from ancient Egypt because of the dry climate and the elaborate burial customs of the earliest Egyptians. Beads and amulets made of shell, faience, ivory, lapis lazuli, or colored glass existed from earliest times. During the Middle Kingdom (2154-1570 B.C.) came goldwork frequently inlaid with flat semiprecious stones or glass pastes, and forming necklaces, bracelets, anklets, belts, rings, and earrings.

The island of Crete, having had contact with Egypt as well as with the Near East, was first in developing a civilization in Europe which encouraged the fashion for elaborate gold jewelry and engraved seals. The designs were commonly drawn from the animal world, in naturalistic or heraldic style. After the destruction of the Mycenaean cities by invading Dorians in the 12th century B.C., the Greek mainland led in the formation of the Geometric period, when bronze fibulae and other jewels were in use. Yet early Greek taste seems to have been slow in adopting the fashion for much jewelry, whereas in Italy at this period, from the end of the 8th B.C. century on, the Etruscans produced goldwork of almost unsurpassed splendor and technical perfection, distinctive by the excellence of its filigree and granulated work. The term *granulation* refers to the minute gold pellets attached to the flat or curving surface of the jewel, in an arrangement which forms the basic design of the decoration.

Ancient Greece.—The 5th and 4th centuries B.C. represent the period of highest achievements in all fields of Greek art, including that of personal ornaments. Jewelry was frequently fashioned in the shape of miniature figures, birds, or animals, which formed pendants or pendant earrings. Naturalistic flowers and foliage, made of thinly beaten gold foil, were predominant motifs for diadems of such exquisite frailty that they seem to tremble in perpetual motion at the slightest touch of air.

During the Hellenistic period, Greek jewelry continued in the classical tradition. The brilliant effects of color, derived from precious stones, occasionally tended to substitute for excellence in workmanship, and bold relief took the place of the fine filigree and plaitwork of earlier days. Hellenistic cameos were carved in relief and hence were not suitable for sealing, as were earlier

intaglios. These cameos introduced portraiture to glyptic art and were frequently inspired by contemporary sculpture and coins, which they occasionally reproduced.

Rome.—In Rome, meanwhile, the art of jewelry making concentrated increasingly upon the setting of semiprecious stones, selected for their intensity of color. These were shaped *en cabochon*, which is oval, following the natural shape of the stone. Roman cameos of the early empire reveal remarkable qualities and originality of conception. They include a series of large-scale gems, carved of shell, sardonyx, onyx, or agates, exposing to full advantage, and as part of the design, the various strata of the stone. Mythological and imperial figure subjects prevail, and portraits of members of the imperial family are some of the finest productions. These cameos were often copied in later times, particularly during the Italian Renaissance and the early 18th century, but never excelled.

The art of enameling was not unknown to the Romans. They used colored glass powders, predominantly opaque red and white, to fill scooped-out cavities on bronze ornaments which firing combined permanently. Enamel-decorated fibulae, brooches, buckles, and trappings have been found all over Europe, wherever the Roman imperial army advanced and conquered.

Medieval.—During the migration period (2d century A.D.—ca. 11th century) the crafts of the metalworker and jeweler were far in advance of arts which had to be practiced on a larger scale. This was a typical feature of nomadic tribes, who carried their precious belongings with them. They brought to western Europe a variety of bronze and gold ornaments, sometimes of enigmatic design, varying from tribe to tribe. Such brooches and fibulae, therefore, show much diversity; they are usually inlaid in flat garnets, almandines, or glass pastes; they frequently display some zoomorphic abstractions of geometrical character, or they adopt bird shape. The most splendid examples of this style, as it became modified in western Europe, were enclosed in the tomb of Childeric I, king of the Franks (d. 481); they are now at the Bibliothèque Nationale at Paris. Other examples were found in the great burial ship of Sutton Hoo in Suffolk, England, discovered in 1939. Coins and other evidence combine in establishing a date between A.D. 650 and 670. A different type of jewelry, typical of Celtic and Gaulish tribes, are electrum and gold torques of twisted design, particularly from regions where late Celtic art survived partial Romanization of the country, as it did in Britain and Ireland, north of the Roman wall. These torques were clasped around neck or arms by means of flattened ends which hook into each other.

In Ireland the pagan Celtic tradition lived on longer than elsewhere and was still prevalent when the country had accepted the Christian faith. Among the most characteristic types of jewelry from Ireland is the penannular brooch with long pin, and the most famous example thereof is the *Tara Brooch* at the National Museum in Dublin. Made during the 8th century, this brooch reveals a medley of different techniques applied to a body cast by the *cire-perdue* process (wax casting). It is patterned all over with interlacing geometrical designs and birds' heads finials, not unlike those found upon the pages of Irish illuminated manuscripts. Niello, filigree work, and granulation are combined, as they often are on related Anglo-

Saxon work. Thus, granulation, combined with cloisonné enamel and filigree, is also found on the famous *Alfred Jewel*, made during the lifetime of the king (d. 901) whose name it bears. The jewel, now at the Ashmolean Museum at Oxford, displays a half-figure in cloisonné, protected by a thick slab of rock crystal, mounted in gold with granulation and an inscription around the edges. Anglo-Saxon disk brooches provide additional evidence that the originally Byzantine technique of cloisonné enamel was fully known and frequently practiced in England during that period.

Since the establishment of Christianity had put an end to the custom of burying valuable belongings with the dead, direct knowledge of early medieval jewelry is often confined to that represented on monumental effigies and to the few objects preserved by chance, or in the sanctuary of church treasures. Many examples of jeweled votive offerings are preserved, and it appears that ecclesiastical work influenced personal jewelry and helped to establish a new style. The deliberate return to the classical past that inspired Carolingian and Ottonian art was most easily achieved in goldwork and brought the contradic-

scribed with a sentimental message, revealing that they were tokens of love and friendship. Others had religious legends, thus combining decorative, practical, and devotional elements.

Finger rings, worn since earliest times, also often combined decorative elements with a significance as tokens of love and friendship; they may have served religious or superstitious purposes or been badges of office. Moreover, they may have been engraved with the owner's crest or initials and been used for sealing.

Ornamental rings set with a precious or semi-precious stone outnumbered all other kinds and have done so since Greek and Roman times. The use of niello and granular work was prevalent in Anglo-Saxon rings, whereas Frankish rings were more often engraved with a monogram and hence intended for sealing. But there are other examples with flat-cut garnets or glass pastes, set within wheel-shaped partitions. In post-Carolingian times, stones were either held by means of four claws, or they were placed in high box settings, a fashion which encouraged the practice of placing colored foils beneath inferior gems, in order to intensify and enhance their appearance.

During Gothic times (from the late 12th through the 15th century) rounded cabochons in plain settings maintained their previous popularity. But as the technique of gem cutting advanced, stones tended to become smaller and of a more regular shape. Rectangular gems were often set in grooved quatrefoils, whereas pointed stones were chosen to form the bezels of stirrup rings, which derived their name from the shape of the hoop. Posy rings were those inscribed with a message of love or friendship, amidst flowers and leaves. The legends, at the inside or outside of the shank, were mostly in French, although these rings were made simultaneously in France and England during the 14th and 15th centuries. This may be a result of the close contact between both countries during the period of the Hundred Years' War. Silver or gold rings with clasped hands, referred to as *fede* rings, were also popular and continued to be so to recent times, particularly in Ireland.

Signet rings have been used continuously since the classical period. The bezel was set either with a stone intaglio, late Greek, Roman, or contemporary, or was engraved with a device upon metal ground. In Italy, during the 15th century, the combination of an engraved stone with surrounding legend inscribed in the gold or silver setting, was not infrequent. The belief that the inherent magical properties of certain stones were enhanced when engraved with the appropriate symbols was prevalent during the Middle Ages, and many engraved rings were therefore worn for their magic or prophylactic qualities as well as for personal adornment or for use as seals. See also AMULETS.

The very large rings of gilt bronze, known as pontifical rings, were worn by bishops and other ecclesiastics over their gloves at ceremonial occasions. These rings were usually set with a rectangular foiled stone, flanked by pontifical arms on each shoulder.

Another kind of religious jewelry in base metal were the pilgrim signs, stamped out of pewter with pictures of venerated saints or their shrines, the objective of pilgrimage. These badges, many of which were discovered in the river Thames, England, were worn in the hat or



The Alfred jewel.

tions of the transitional migration period style to an end. This revival included the ancient art of gem cutting, an art of which the rock crystal at the British Museum, with the story of Susanna, carved during the reign (954-986) of King Lothair of France, is a splendid example.

The workshops of goldsmiths were then located in or near monasteries or within the precincts of cathedrals; as a result the ecclesiastical tradition soon enriched the secular. The finest jewels were made to adorn statues of the Virgin and other saints, rather than for personal uses. Hence it is that the treasure of Empress Gisela, who lived during the mid-11th century, is wholly exceptional. This treasure, found at Mainz, contains necklaces, earrings, and brooches, including a circular one in the shape of an eagle, inspired by earlier bird-shaped jewels, but rendered in a new composite style of heraldic qualities. The inclusion of antique cameos or intaglios in medieval jewelry, religious or secular, was widespread. They were frequently surrounded by rows of threaded pearls, held in position by means of gold loops.

Among the popular types of personal jewels were ring-shaped clasps and brooches, often in-

cap, a custom derived from pilgrims to the Holy Land.

Another type of religious jewelry, symbolizing the need for divine protection, were miniature statuettes of patron saints, worn around the neck or as belt pendants. Silver and gilt silver were frequently used for casting these small figures, among which the Virgin, St. Sebastian and St. Christopher took first place. A similar desire for protection was also expressed in the wearing of small reliquaries, enclosing some objects intended to confirm the bond between the wearer and his patron saint. These reliquaries were usually of rounded shape and had flat hinged covers; they were engraved with pictures of saints, surrounded by naturalistic Gothic foliage.

Superstitions and the darker forces of magic were evoked in prophylactic jewels, made of strange materials to which protective powers were ascribed. There were pendants and rings with fossilized teeth of sharks, with toadstones, or with pieces of the unicorn's horn, actually that of the narwhal, to guard against such calamities as dropsy and poisoning. Occasionally cabalistic signs or legends intensified the protective virtues ascribed to these jewels.

Other types of late medieval jewelry included heraldic badges and chains of office and, among the most delightful and original creations, the enameled gold jewels worn at the court of Burgundy. These jewels, made about and after 1400, were frequently in the shape of a wreath of jeweled foliage, with a preference for strawberry leaves, enclosing white enameled figures in fashionable, contemporary costumes; or else tame animals in white or spotted enamel were recumbent within similar enclosures. Almost invariably there were clusters of pearls and sapphires on these jewels, or on connecting links of necklaces, reminding one of the triple significance of precious stones: as things of beauty, of intrinsic value, and of inherent magical virtues. Among the chief representatives of this charming type of jewelry are a brooch with lovers surrounded by strawberry leaves, at the Kunsthistorisches Museum in Vienna, a sequence of jewels at the treasury of the cathedral in Essen, Germany, and a necklace at the Cleveland Museum of Art.

The use of jewels as a form of currency is proved by many lists of royal treasures; these were often pawned, broken up, and melted down in later years. The inventories of the dukes of Burgundy and of the kings of France abound in descriptions of such jewels as are known to survive in isolated examples only.

Renaissance.—Late medieval jewelry was closely linked to architecture, and Gothic pinnacles and arches were frequently adopted by the goldsmith. This predominant influence, however, did not continue during the early Renaissance, when the art of jewelry became increasingly more dependent upon the art of painting. But when a basic architectural structure remained desirable, as often was the case with Renaissance pendants, classical columns and pediments superseded Gothic crockets and acanthus-leaf decoration. The new link established between the Renaissance goldsmith and painter shifted the aspect of contemporary jewelry towards pictorial concepts. The workshop of the goldsmith, no longer housed in monasteries, became the meeting place and training school of many painters, including Antonio Pollaiuolo (1429–1498), Andrea del Verrocchio (1435–1488), Sandro Botticelli (1444?–1510),

Albrecht Dürer (1471–1528) and Hans Holbein the Younger (1497?–1543), and a fruitful exchange of ideas and techniques resulted. Gradually the change of design in jewelry was followed by a change of subject matter, and classical themes, executed in minute sculpture, determined the iconography of Renaissance badges and pendants. The pleasurable pursuits of Greek gods on earth were frequently represented, and figures of Diana and her hounds, or of the Three Graces, outnumbered by far the statuettes of saints which had enjoyed preference during the Middle Ages. Well-known painters and engravers supplied jewelry designs and pattern books which circulated from workshop to workshop. As a result of this practice, which leveled national characteristics in favor of generally accepted standards of fashion, it is often exceedingly difficult to determine the country of origin of Renaissance jewels.

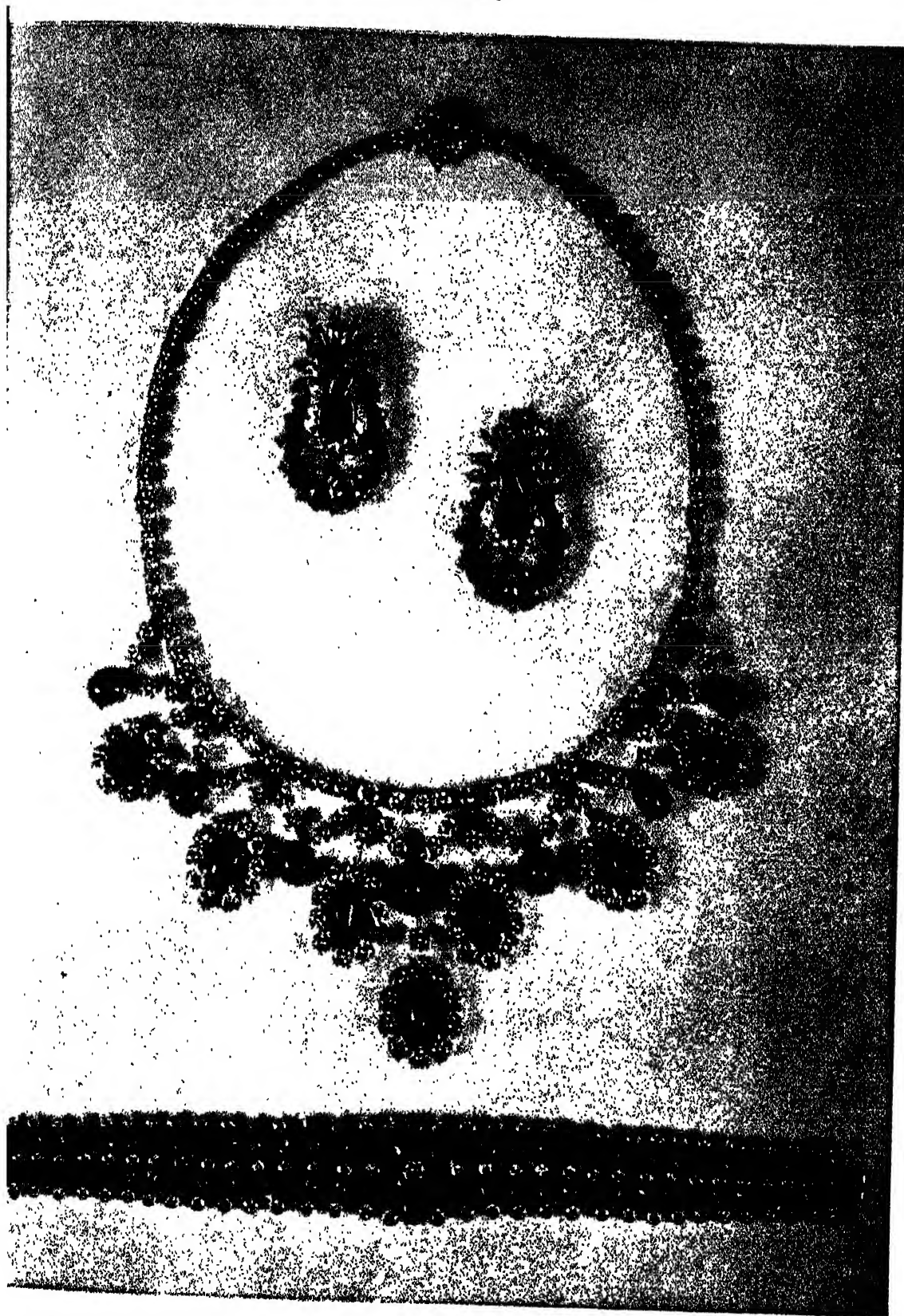
Among the most prominent painters who designed jewelry was Hans Holbein the Younger, active during the first half of the 16th century, in Germany, Switzerland, and England. His drawings, engravings and portrait paintings, depicting courtiers and members of fashionable society adorned with jewels, greatly influenced contemporary goldsmithery. These Holbein jewels were reproduced in many countries, wherever the designs of the master were known and admired. Holbein's strapwork ornament, intended for and frequently executed in black enamel on gold, was inspired by Hispano-Moresque metalwork, which had reached central Europe through the gateway of Venice. Similar designs in black and white recur in contemporary embroidery. Holbein's caryatids and small figures in the nude reveal Italian influence, whereas half-figures of ladies, supporting precious stones at the center of a pendant, originated in France and Burgundy, where this motif was frequently adopted during the 15th century.

One of the most characteristic creations of the period was the hat badge or *enseigne*, as it was then called, a jewel derived from the medieval pilgrim sign. The great variety of badges, usually of enamel and gold, can be studied in paintings by Bartolommeo Veneto (fl. 1502–1530) of Italy, François Clouet (1510?–1572) of France, and again in many portrait paintings by Hans Holbein the Younger, who designed similar badges for his patrons. No other jewel seems to express the personality of the wearer so aptly, through an individual choice of subject matter. Humanist interests, based upon classical education, account for the noticeable preference for antique cameos, mounted in contemporary setting, with loops provided for attachment to the beret. Mythological scenes, often remarkable for the large number of small figures involved, show incidents from the happy lives and adventures of Greek gods. Religious subjects are rare, except for figures of a patron saint, whose protection the wearer evoked.

Greek and Roman cameos were also mounted in rings and pendants. These gems formed the only actual link with antiquity, for classical jewelry was practically unknown during the Renaissance. Occasionally antique cameo heads were combined with contemporary jeweled busts or figures. This liking for contrasting effects may also have suggested the use of baroque pearls as bodies of birds, animals, and sea monsters, suspended from delicate chains for use as pendants.

The multiplication of designs by means of engravings, and the increased availability of gems

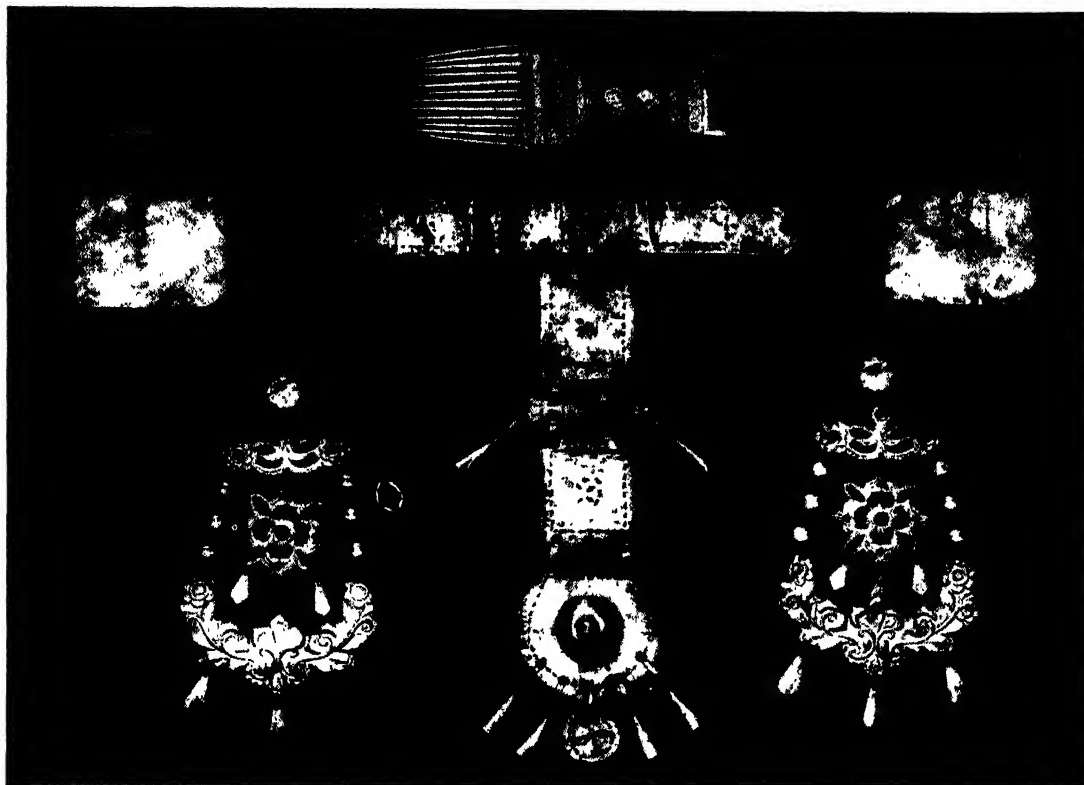
JEWELRY



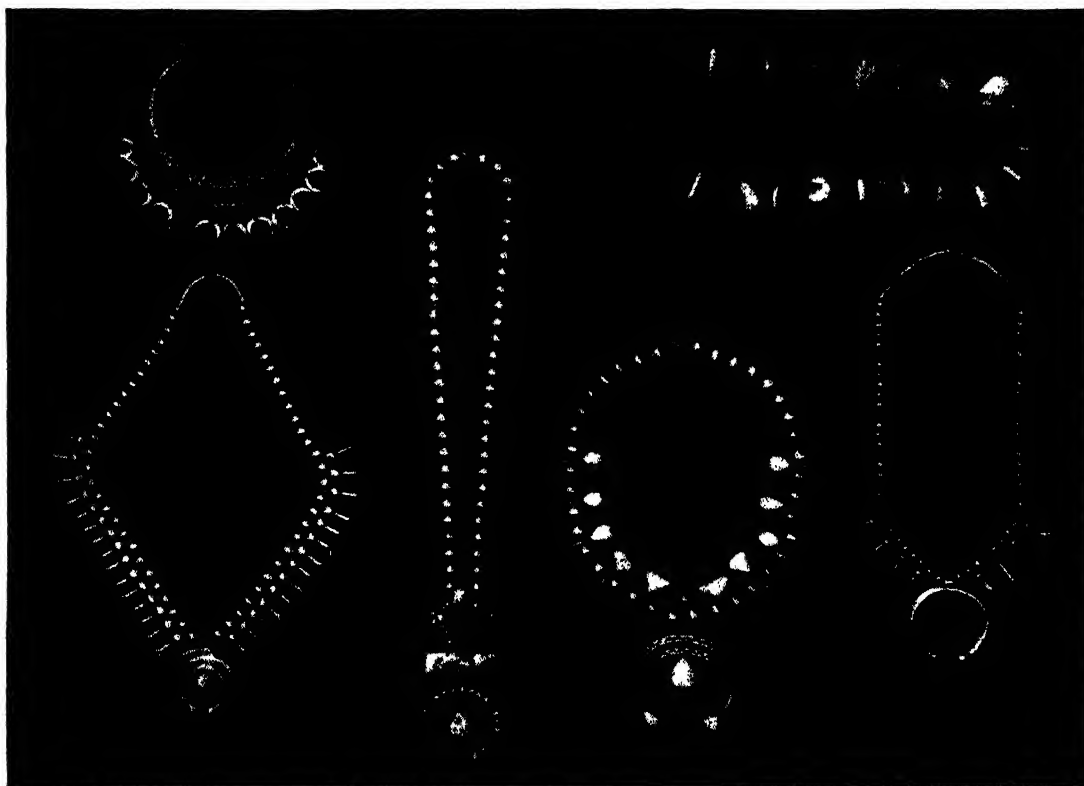
A matched set of ruby earrings, necklace, and bracelet, designed in classic style. The necklace has cabochon rubies set against round diamonds, and the bracelet is of oval rubies and round diamonds, mounted on round diamonds, with the clasp containing baguette.

Courtesy Van Cleef and Arpels

JEWELRY



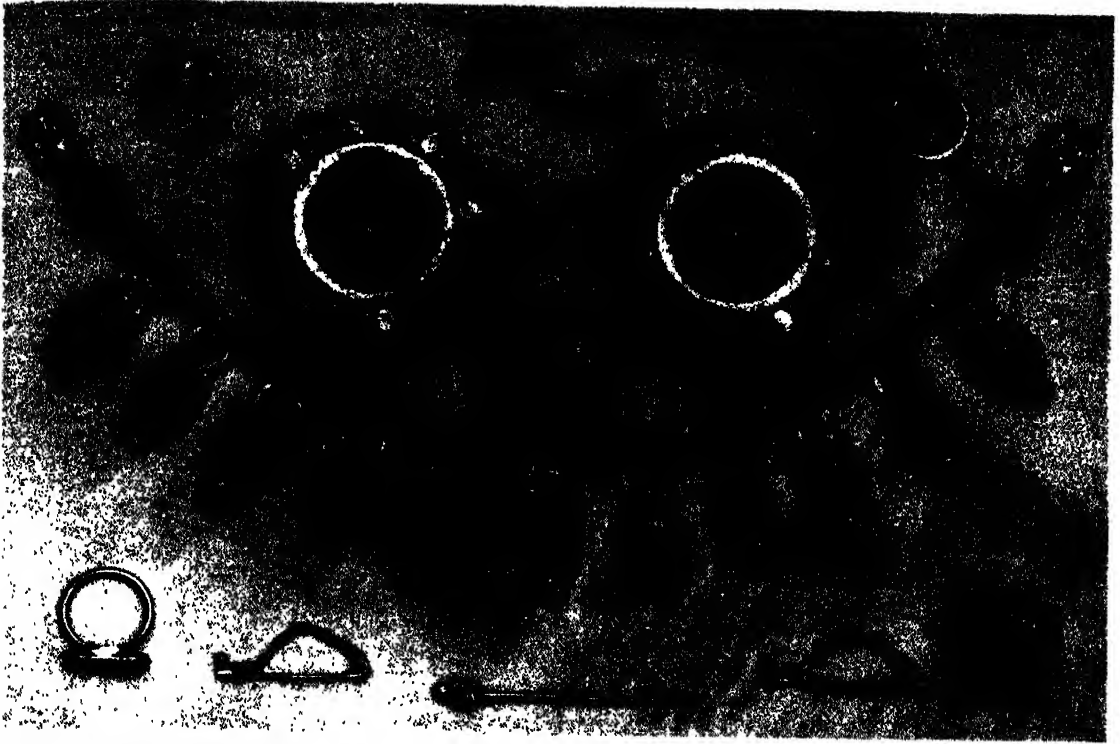
Top: Arab comb, with contrasting bands of gold and silver. **Center:** Silver necklace, 14½ inches long, made by the Araucanian Indians of Chile. **Center left and right:** Five inch silver earrings typical of Chile's Araucanian art. **Bottom left and right:** Eleven inch silver earrings from Bolivia.



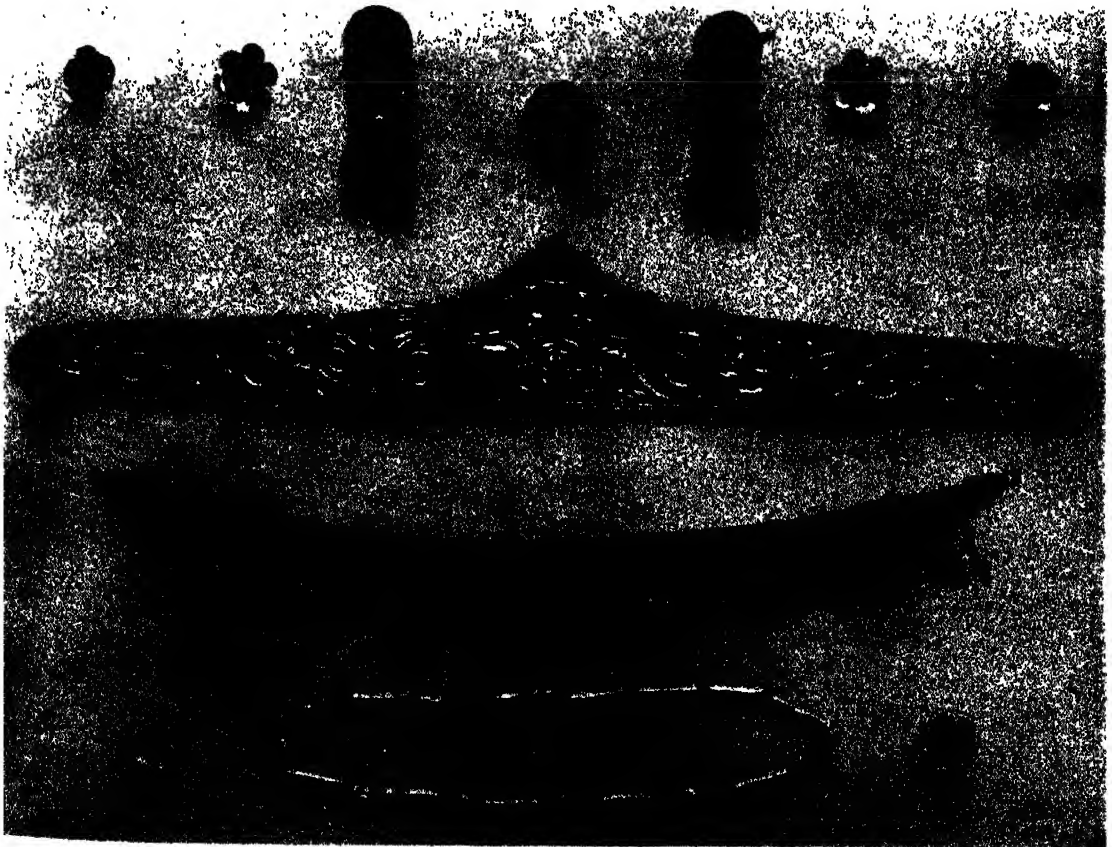
Top row: Early Navajo Indian necklace (left) and solid silver necklace as used by Mohammedan Indians and Arabs (right). **Bottom row:** (left to right) Early Navajo silver necklace; Navajo squash blossom necklace; Zuni Indian bride's necklace; Hopi Indian squash blossom necklace.

Jewelry from the W. R. Leigh Collection, courtesy American Museum of Natural History

JEWELRY

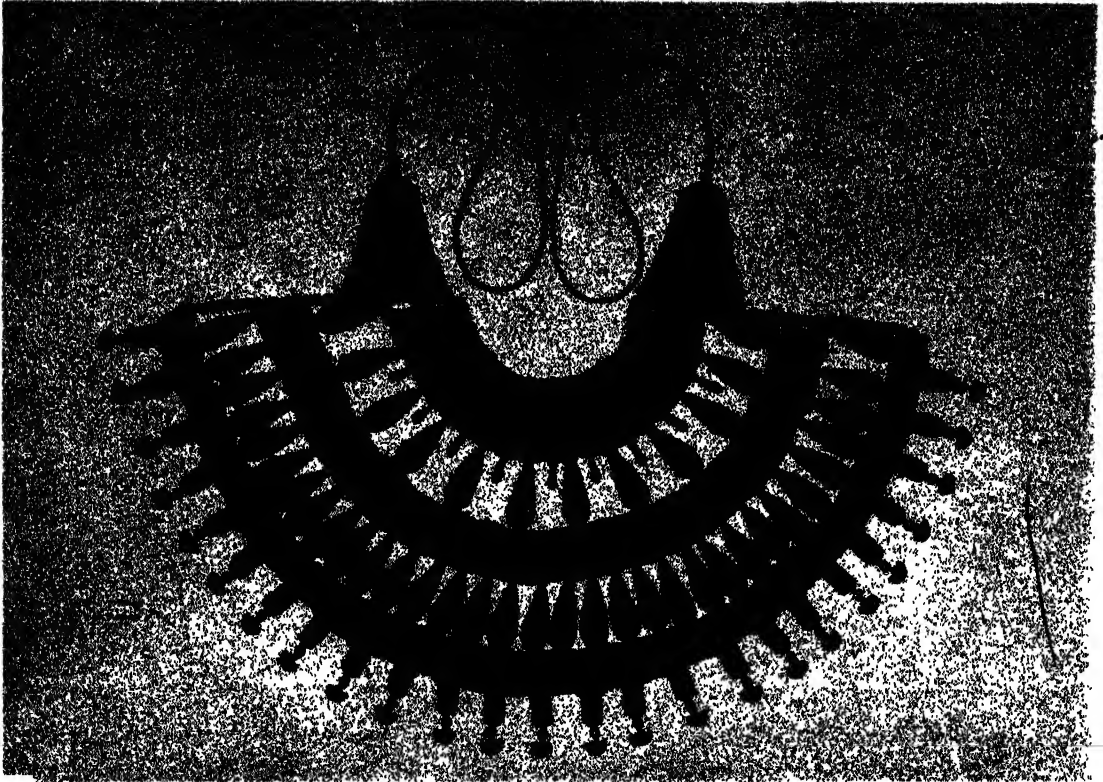


Etruscan necklace, disks, fibulae, and rings, c.500 B.C., found about 1832. Some of the articles are mounted in gold.
Courtesy The Metropolitan Museum of Art



Greek gold jewelry of the late 4th century B.C., consisting of diadem, necklace, beads, earrings, and rosettes in the form of flowers.

JEWELRY



Egyptian gold collar containing carnelian, green feldspar, and glass. Reign of Thutmose III (r. 1501–1447 B.C.).
Courtesy The Metropolitan Museum of Art



Egyptian jewelry of the Ptolemaic period (246–221 B.C.). The necklace is of gold and amethyst. The girdle is gold with emerald, matrix, and carnelian.

and diamonds during the Renaissance period combined to establish the new style in jewelry. Methods of production were described by Benvenuto Cellini (1500–1571), with whose name many of the Renaissance jewels have been associated, in his treatise on the goldsmith's craft. The new fashion spread to France and to southern Germany, where Augsburg, Nürnberg, and Munich became centers of production. Local painter-engravers competed in designing highly original jewelry. Erasmus Hornick (fl. 1550) of Nürnberg engraved pendants in the shape of dragons and sea horses. Hans Muelich (Mielich, 1516–1573) of Munich designed and painted elaborate architectural pendants as background for allegorical representations, figures of Virtues and of Greek Mythology. Virgil Solis (1514–1562) of Strasbourg added diversity to established conceptions of goldsmithery in a versatility of objects and designs matched only after the turn of the century by Théodore de Bry (1528–1598) of Frankfurt.

In France, meanwhile, the so-called *maîtres ornementistes* were at work. They included Étienne Delaune (1518?–1595), engraver of countless variations of Renaissance jewels, locket, watchbacks, and pendants composed of enameled arabesques in *champlevé* technique, interspersed by terminal figures, birds and animals, upon a ground of pierced scrollwork. His designs were faithfully copied by jewelers, and many examples fashioned after his engravings are extant in private and public collections. Designs by Jacques Androuet Du Cerceau show the architect's predilection for structural composition, scrollwork, cartouches, and caryatid figures. Similar caryatids also appear on the shoulders of rings, their decoration no longer being confined to the bezel, but extending around the hoop. Jan (or Hans Baptist) Collaert (1540–1628) of Antwerp, and Pierre Woeiriot (Voiriot, c.1531–1589), whose engravings were published at Lyons, promoted the fashion for sea monsters and dragons with figures riding on their backs, jeweled, enameled, and hung with pendant pearls.

At the end of the 16th century a more classical type of pendant with fewer figures, of greater symmetry, and of a new lightness of design was engraved by Daniel Mignot (fl. 1590), a Huguenot working at Augsburg, and by Paul Birckenhultz, whose engravings first appeared at Frankfurt in 1617, one year later than those by Mignot. Thus continued the fashion for vividly colored jeweled pendants, constructed of different openwork planes, held together by minute bolts and nuts. Variations of this type, of heavier character and a more pronounced color scheme, prevailed in Hungary and also in Spain. Jewels in the shape of a ship, the full sails outlined by rows of seed pearls, were typical of Venice and the surrounding regions of the Adriatic coast; they were of a kind which continued almost to modern times, particularly in peasant jewelry. Religious ornaments, less prominent though never absent, included crucifixes, crosses, and small reliquaries, intended for wear around the neck, amulets and miniatures on gold foil, enclosed behind rock crystal, a type most characteristic for Italy and Spain during the second half of the 16th century.

While the Renaissance pendant, in all its magnificence, undoubtedly was the most representative jewel of the period, other types, often matching the jeweled outfit, were worn with it. There were necklaces and chains, earrings, buttons, bracelets, and belt-pendants. The latter included

miniature prayer books in jeweled bindings (girdle books), pomanders, or containers for spices and scent, opening in compartments like slices of an apple, toothpicks, whistles, and various kinds of charms, some of these carved of a piece of coral. Necklaces were frequently of extravagant length, designed in sections, interspersed by pearls and precious stones, and joined by enameled links. Some chains were enameled in vivid colors; others concentrated on black to enhance the purity of shiny pearls. Many jewels were sewn on to costumes, or they were worn in the hair, as seen in contemporary portrait paintings.

In England, where the medieval tradition lasted late in all the crafts, ending only with the Reformation, Renaissance jewelry was not produced before the middle of the 16th century. The influence of Hans Holbein on contemporary goldsmithery added new variety and new kinds of jewels to the traditional ones. Typical of this period were lockets containing a miniature, mounted in enameled gold and surrounded by a wreath of square, table-cut rubies, garnets, or diamonds. Pendants set with Roman or contemporary cameos in similar settings became fashionable, and several portraits of Queen Eliza-



The Phoenix jewel.

beth, carved in onyx or agate, have been preserved. Chains of office and badges with emblems or armorial devices in jeweled mounts enjoyed great popularity, some modeled on contemporary medals and presenting tokens of royal favor. The *Phoenix Jewel*, at the British Museum, cut from the gold medal of 1574, shows the likeness of Elizabeth I, enclosed in a wreath of Tudor roses. Her portrait also appears on a number of Armada jewels, popularly known as "Danger Averted" medals, depicting the Ark in low relief, and bordered by jewels in enameled settings of great originality. Another jewel, typical of the Elizabethan scene, was the signet ring. Frequently the entire ring was made of gold or silver, or else the bezel was set with an engraved crystal over foil, colored so as to show the device in its proper tinctures. A historic ring of this kind is the signet of Mary, Queen of Scots, at the British Museum.

During the early Stuart period, floral motifs gained in popularity. The dainty enameled chains, found at Cheapside in London, exhibited at the British and the London museums, give an excellent illustration of this new style, produced at a period when England's finest garden poems were

composed. Daisies, marigolds, and other soft-petaled blossoms, enameled in white and in pastel shades, reveal a new lightness of touch and texture and a delicacy of design which is entirely novel and no longer harks back to the ideals of a past age.

French jewelry of the later Renaissance, following the well-known and widespread designs by Étienne Delaulne and others, usually preserved a certain classic restraint. Spanish goldwork of the period ran riot in an exuberance of color, supported by a lavish display of precious stones. The original dependence upon Italian design earlier in the century diminished, and gradually a new national style of Spanish jewelry and goldwork evolved.

Jewelry of the latter half of the 16th century was marked by the rise in importance of the gem, as compared with the metal setting, with special emphasis upon diamonds. This was most obvious in Spain at a period of the country's history when the riches of the New World increased its prosperity and filled the coffers of the royal family. Towards the end of the century, as the supply of gem stones steadily increased, Spanish jewelry tended to display an almost ostentatious profusion of stones, which from then on took the place of enameled figure subjects.

Seventeenth Century.—With the invention of the rose diamond cut in the Netherlands shortly after 1640, the entire character of jewelry began to change, again most notably in Spain. Jewels of gold openwork were studded all over with rose-cut diamonds, combining with the gold setting in producing a striking effect of almost voluptuous profusion. Unrelieved by touches of color, previously provided by enamel but now restricted to white, and with all architectural motifs and cartouches replaced by flower and foliage designs, Spanish jewelry assumed a highly individual character, generous in conception, and with a passion for sparkling diamonds.

In other European countries silver rather than gold was chosen for the setting of diamonds; being colorless, silver detracted less from the effectiveness of the stone, which was now exploited to fullest advantage. The rose diamond cut, with its 24, or occasionally even 36 facets, meant a great advance over the medieval pyramid-shaped stone which could serve for engraving and incising, and over the Renaissance table-cut stone which gave the diamond a flat, mirrorlike surface; and yet, the rose cut may still seem dull when compared to the brilliant cut, invented by the Venetian Vincenzo Peruzzi about or after 1700. While the rose cut meant the all-over faceting of diamonds, a method by which their fire was increased through additional reflection of light, the brilliant cut, with up to 58 facets, was applied to deeper stones, ending in points at front and back, and thus reflecting yet more light than the flat rose diamond.

From this period, the first half of the 17th century, also stemmed the tendency of setting jewels and rings with a number of smaller stones, instead of a single large gem. This development, consistent with the change of taste brought about by French engravers, gave the jeweler greater freedom of design; stones were placed close together, eclipsing their settings, and figure work, in consequence, went entirely out of fashion. Among the most fruitful and versatile French engravers to promote this new style was Gilles Légaré, whose pattern books ap-

peared in Paris in 1663. Simultaneously a fresh impetus to the art of enameling was experienced in France and in other European countries as the fashion for elaborate watchcases created a sudden demand for their decoration. This new fashion extended over the ornamentation of miniature cases and lockets and even affected the reverse of jeweled settings of all kinds. Naturalistically conceived bouquets of flowers, centering around the tulip, formed the motif of decoration, painted in vivid colors upon a ground of white. The fashion for the tulip, often referred to as tulipomania, originated in Holland about 1640, whence it spread rapidly all over Europe, making itself felt in many branches of art: painting, furniture, and metalwork.

Another enamel technique, practiced in 17th century France, was *émail en résille*; it was short-lived because of the extreme skill required of the goldsmith. It involved a combination of glass and translucent enamel, the latter within linings of thin gold foil, stressing the basic design. Strapwork of Moresque origin, after designs published in France by the 17th century engraver, Valentin Sezenius, is well known from watchbacks, lockets, and belts.

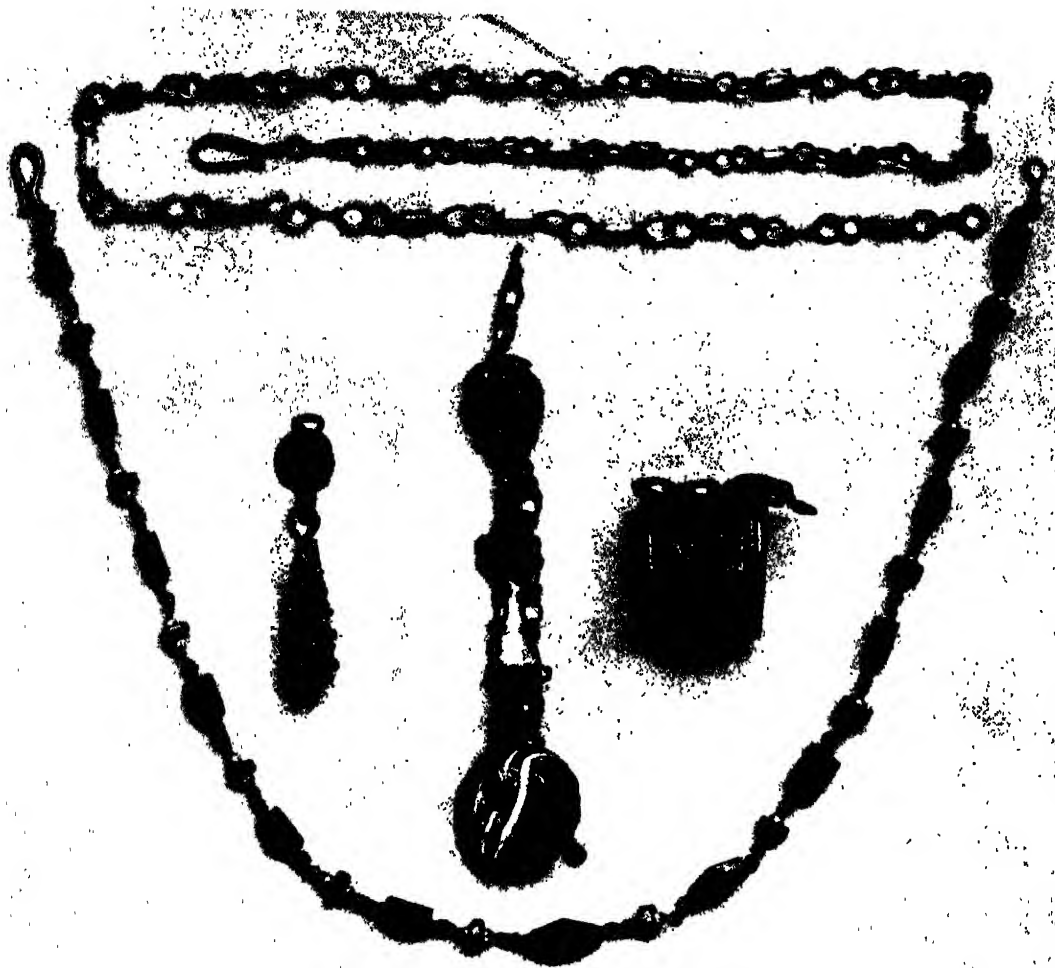
A few types of jewelry, previously known but then of lesser importance, became firmly established. The 17th century aigrette was a jewel worn in the hair or cap, supporting a feather, or imitating it in form. Mourning jewels, made during the Renaissance, continued to have a special appeal for the baroque man. Rings with coffins and skeletons, pendants with skulls and crossed bones, surrounded by mottoes referring to the brevity of life and the certainty of death, struck a more personal note. Inscribed in black enamel with name and dates, they commemorated the death of a relative or friend. Portrait miniatures of the defunct were occasionally included, particularly in lockets, and the custom of adding a lock of hair, often plaited around the hoop of a ring, was widely followed. Necklaces and pendants studded with diamonds and pearls emphasized graduated bow-shaped ornaments, and were tied by ribbons around the neck. The girandole was a clasp or pendant of alternating ribbon and bow design in openwork, containing a large center stone, surrounded by smaller ones and terminating in three pendant pearls.

Eighteenth Century.—The "Séigné" bow, of 18th century origin, was usually hung with a cross and intervening links, in openwork. Matching earrings and bracelets completed the outfit or parure.

For those who could not afford real diamonds there was paste jewelry, made in imitation of diamonds, and most effective when worn by candlelight. French paste is often referred to as strass jewelry, after Joseph Strasser, a Viennese who lived in Paris, and who in 1810 invented an improved method of faceting glass and of adding colored foils beneath tinted stones, to increase their intensity.

About the middle of the 18th century, the trend towards lighter designs became more pronounced, and with it returned a new delight in color. Diamonds, surrounded by emeralds, rubies, garnets, topazes, and amethysts, were combined in the featuring of naturalistic sprays of flowers and bouquets tied with bowknotted ribbons. Eighteenth century rings, composed of a medley of colored stones, each representing a flower, are known as *giardinetti*. Their open-

JEWELRY

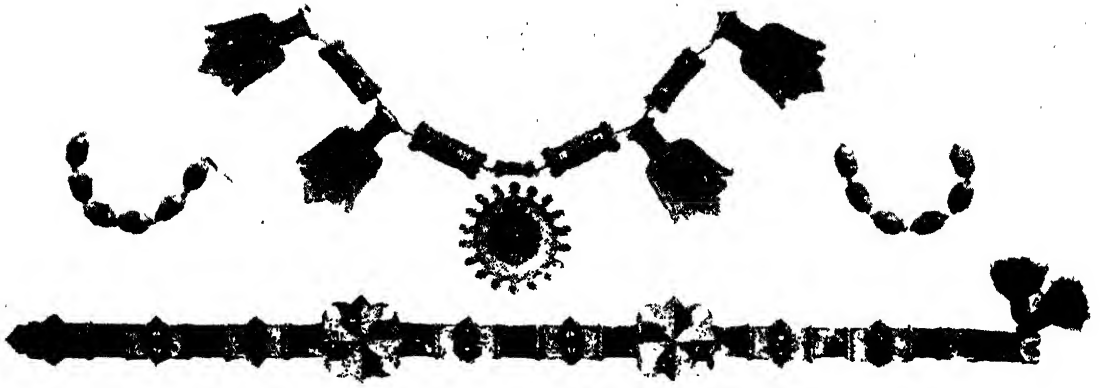


Roman gold and silver jewelry, 1st century B.C.–1st century A.D.
Courtesy The Metropolitan Museum of Art

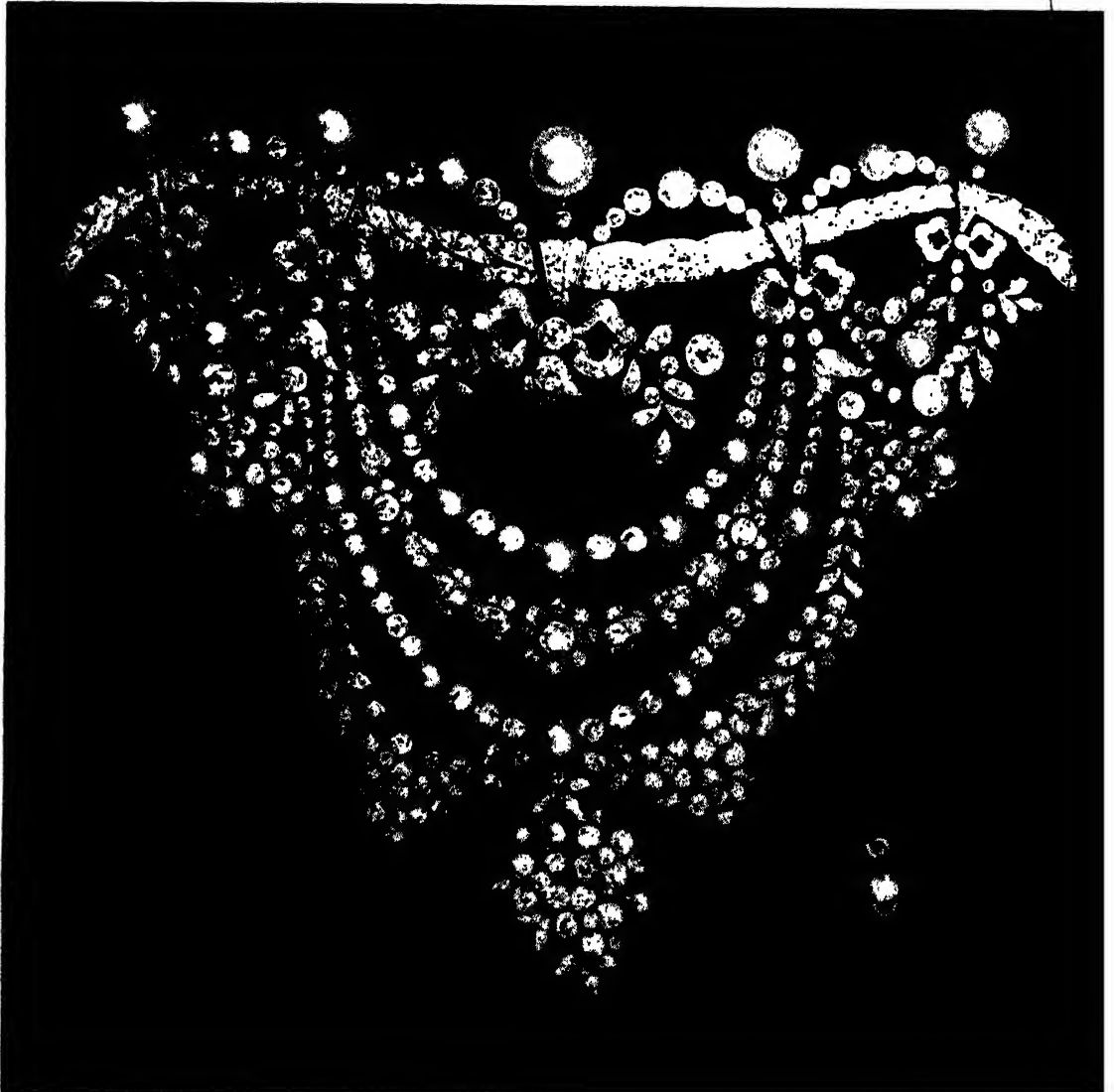


Byzantine pair of gold bracelets, set with pearls and sapphires, 6th century A.D.

JEWELRY



Spanish jewelry. Bracelet of gold, enamel, and pearls, 14th century A.D. Necklace of gold and enamel, 14th century. Belt ornaments of copper, gilt, and enamel, 15th century.
Courtesy The Metropolitan Museum of Art



French or American pin of platinum, gold, diamonds, and pearls, from the period 1890-1910.

work settings are usually of silver, although the hoop may be of gold. Another type of colorful jewels, created at the end of the century in England, was that in which the first letter of the name of each stone in proper sequence spelled the word "regard," starting with a ruby and ending with a diamond. They represented tokens of love or friendship.

Floral sprays and rings continued to be made during the 19th century. While there were little changes of design, the technique of setting precious stones underwent certain changes. Until the end of the 18th century, all stones were enclosed in collets or boxes, backed by silver or tinted metal foil to intensify their color. During the 19th century, however, settings were left open at the back and stones were held in position by means of claws. More light could thus surround the stone, though the possibility of improving the color by means of metal foils was at once excluded. Therefore most stones used in open settings were superior in quality to those previously enclosed in box settings. During the 19th century, silver still held preference over gold in the setting of diamonds, though it was often lined with a thin layer of gold. These settings were so generally adopted everywhere that, with the exception of peasant jewelry, they are decisive factors in the dating of traditional types of personal ornaments.

Among the new types of jewelry, many of them machine-made since the latter half of the 18th century, were chatelaines of silver, gilt metal, and pinchbeck. This alloy of copper and zinc was named after the inventor, Christopher Pinchbeck (1670?-1732), a watchmaker, active in London about the middle of the 18th century. Chatelaines were worn from the belt, to support watches, watchkeys, seals, thimble cases, writing tablets, and other utensils. Fob seals, worn on chains or ribbons, were made of gold, silver, or pinchbeck, set with a carnelian or other semiprecious stone carved in intaglio. Occasionally seals as well as signet rings were made with a revolving stone for sealing on both sides, a device which may be traced back to the Egyptian scarab ring of ancient times. There also existed an inexpensive, mass-produced kind of intaglio, called a "tassie," after James Tassie (1735-1799), a Scot who settled in London in 1766. He invented a process of casting replicas of intaglios in glass pastes, for use in rings or seals. Another material which one has come to associate with inexpensive late 18th century jewelry is marcasite, crystallized iron pyrites, faceted in the manner of precious stones, intended to suggest diamonds. Cut steel, porcelain, and Wedgwood ware all enjoyed periods of great popularity as substitutes for real gems. Hair jewelry, mentioned earlier, was associated with mourning and almost entirely confined to English-speaking countries. Towards 1770, a new design of mourning rings, in keeping with the sentimentalism of the time, made its appearance. The hoop was of plain gold, the bezel of marquise, that is lozenge-shaped, set with a crystal covering plaited hair and the initials of the bemoaned. Other rings enclosed a miniature, painted in black and sepia upon ivory, depicting a weeping figure standing beside an urn or funeral monument, overshadowed by a willow tree. Name, age, and date of the deceased were usually inscribed at the back of the bezel.

Nineteenth and Twentieth Centuries.—The classical revival of Napoleonic times, and the

growing knowledge of Greek and Roman gold-work through excavations, promoted a Neo-Greek style in art and fashion, frequently referred to in France as Empire. The lunette-shaped diadems, worn by Empress Josephine and the ladies of her court, were inspired by classical designs. In great vogue were stone and shell cameos carved with mythological subjects, portraits, or idealized heads imbued with 19th century sentimentality. Most cameos were made by means of mechanical tools and as production increased, the inevitable consequence was a decline in standards of execution and design. Naples was the center of this flourishing industry, whereas Venice was the place of origin of small mosaics, reproducing Roman ruins, mounted in gold or gilt metal, as adornment of brooches, earrings and link bracelets. Occasionally floral sprays or miniature replicas of well-known antique mosaics were featured in larger brooches. A similar type of jewelry, equally fashionable during the early 19th century, was set with medallions of painted enamel. Most of these enamels originated at Geneva, where the watch industry had stimulated the art of enameling by creating a constant demand for enameled watchbacks and cases. These Swiss enamels frequently depicted figures in local costumes, viewed against a background of mountain chains. Later in the century jet jewelry became fashionable, particularly in England during the widowhood of Queen Victoria, when the wearing of black lockets, chains, and earrings seemed to become a generally accepted habit among older ladies.

Other Victorian jewelry reveals the eclecticism which was so marked a feature of the period. There are Gothic and Romantic motifs, Indian and North African designs, and lastly copies made from objects discovered in the course of excavations. Outstanding among those 19th century jewelers, who were almost exclusively inspired by ancient designs, was a small group of Italian craftsmen who produced work of the highest quality and technical perfection. Leading among these was Fortunato Pio Castellani (1793-1865), a Roman jeweler, who rediscovered the Etruscan secret of granulation, that is, the applying of minute grains of gold to a gold base. He also excelled in the ancient technique of filigree. Castellani's jewels, moreover, were archaeologically accurate, a fact quite in contrast with the sentimental revival and interpretation of bygone styles during the Victorian era. Another Italian jeweler, Carlo Giuliano (c.1814-1880), with his two sons, emigrated from Naples to London, where he established a prosperous jewelry business. Giuliano's designs in gold openwork featured enamel of quiet hues, interspersed with pearls and precious stones. His jewels were conservative, the finer points of superb workmanship balanced by unflinching excellence of taste. Most of Giuliano's jewels were marked with initials, a practice also followed by Castellani and his firm.

Before the turn of the century, Karl Gustavovich (Peter Carl) Fabergé (1846-1920), Russian court jeweler, produced enameled ornaments of great distinction, though his designs were somewhat eclectic, being based upon traditional Renaissance concepts. His own individual genius revealed itself more clearly in his jeweled Easter eggs and in carvings of semiprecious stones featuring floral sprays, animals and, occasionally, figurines of Russian peasants, enhanced by jeweled and enameled mounts.

In France, René Lalique (1860–1945) interpreted the *Art Nouveau* style in jewelry of great originality. He produced realistically conceived flowers, birds, and butterflies with wings covered by opalescent or transparent enamel, veined with gold, and heightened by pearls. Contemporary designers and jewelers have lately become so closely associated with well-established firms that their names and individuality are frequently obscured. Modern jewelry ranges from realistic to abstract designs, displaying brilliants and baguettes (bar-shaped gems), besides a medley of precious and semiprecious stones gathered from all corners of the world.

Peasant jewelry, though of small intrinsic value, is of considerable interest, since it reproduces contemporary styles in cheaper materials, or continues those of a previous age, no longer in fashion. Low-grade gold, combined with glass pastes and semiprecious stones, is frequently used. Filigree work is characteristic of Mediterranean countries, whereas enamel is rarely applied.

The Orient.—Gold jewelry produced in other continents than Europe, though only briefly mentioned, is of great interest. Ancient China excelled in metal inlay and gold filigree work, particularly during the T'ang (618–906) and Sung (960–1279) dynasties. Phoenix-shaped hair ornaments were then worn by the empress, the bird's tail feathers studded with pearls and precious stones, uncut but polished, as were the cabochon stones of medieval Europe. Cloisonné enamel, in contrast to Byzantium and to western Europe, was less frequently applied to gold. Jade commanded growing importance in later jewelry from China, though pearls, tourmalines, and other stones also abounded. Traditional designs featured dragons, the animals associated with the emperor, or bats, symbolic of long life.

Indian jewelry, worn by men and women at ceremonial occasions, included heavy gold and silver bracelets, usually embossed, and ending in dragons' heads. There were also silver belts, anklets, chains and pendants, gold amulets, necklaces, and earrings, frequently with animal or floral decoration, executed in enamel, a technique for which Jaipur was famous. Indian jewelry was studded with pearls, rubies, jargons and other stones; diamonds were usually flat-cut and of irregular shape. In Persia filigree had prominence, besides colorful enamel depicting flowers, similar to those painted in Persian miniatures.

Africa and America.—On the African Gold Coast, the Ashanti are known for gold ornaments, which include birds, toads, and animals, worn as rings, pendants, or amulets. From the Ivory Coast come gold masks, highly stylized, of attenuated oval outlines, and with prominently arched brows. These masks are made of heavy gold, in contrast to the gold masks of ancient Peru, found in tombs dating back as far as A.D. 800–1000, which are made of thinly beaten gold foil. Pre-Colombian gold amulets of the Quimbaya culture take bird shape, whereas anthropomorphic figures, worn as charms, are featured in Panama. The Aztecs of Mexico often combined gold with carved jade, a practice which they may have learned from the Chinese. These African and American jewels exercised a strong influence elsewhere, as they became more widely known, and contributed much in rendering modern jewelry design more versatile and colorful. See also BRACELET; BROOCH; CROWNS AND CORONETS; EAR-

RINGS; GOLDSMITHING; PRECIOUS STONES; RINGS.

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YVONNE HACKENBROCH.

JEWELRY TRADE, The. The making of jewelry is one of the oldest trades of which the American historian can find record, for while the manufacture of such articles of adornment occupied a position of little commercial importance until several years after the settlement of this country by the colonists, the fact remains that jewelry was made by the native Indians many years before the first European set foot upon American soil.

Prim and precise as the Puritans are supposed to have been, it is a mistake to imagine that they were too primitive in their opinions to appreciate the advantages of a little jewelry in the adornment of their persons. Both the Dutch and the English brought such ornaments with them to the new world, and one's personal attire was considered incomplete without the buckles, brooches and rings which were in vogue at that time. As the natural result gold and silver smithing was one of the first industries to be established in the colonies, and every large town had its smiths who produced the most popular articles of jewelry, as well as certain kinds of trinkets for the Indians, medals, snuffboxes, etc.

One of the most important products of the early silversmith's art was the making of elaborate boxes from rare woods, or, sometimes, shell, inlaid with gold or silver. Snuffboxes were manufactured in this way, while other boxes were made to contain the parchments which conferred the freedom of the city upon distinguished guests. Sometimes these boxes were made entirely of silver and were lined with gold. Occasionally the metal was gold, studded with precious stones. It was such a box as this in which the people of New York presented the "freedom" to Alexander Hamilton, after his elaborate defense of the liberties of the press in New York, in 1784; while similar boxes were later conferred upon Lafayette, Washington and General Scott. The making of such boxes and other ornamental insignia conferred upon distinguished men represents but one of the branches of the art of the smith, for there were so many demands made upon the craft that its ranks were constantly extending. In 1788, when the adoption of the Federal Constitution was celebrated in Philadelphia, there were no less than 35 goldsmiths and jewelers in the procession, while, more than 20 years before, it had been the profuse display of jewelry, silverware, etc., in the homes of the prominent New Yorkers that had incited Charles Townshend (1725–1767) to introduce the historic



bove: Molten gold and hardening alloys are poured into molds from which metal will emerge in the form of bars.

ve right: Annealing in furnace prevents gold bars from becoming brittle when they are thinned out by being rolled.

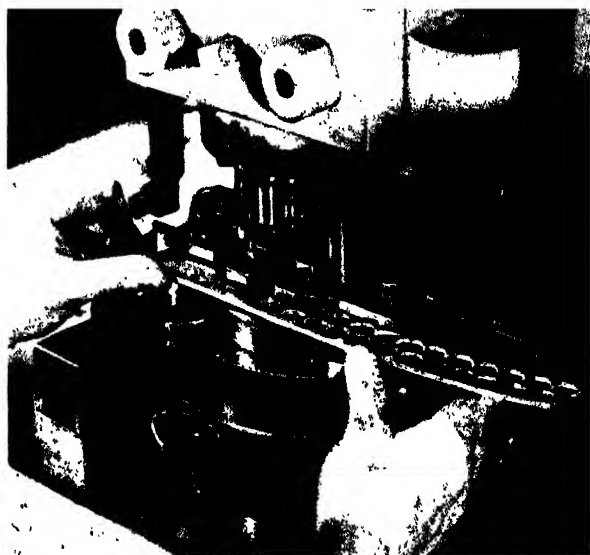
JEWELRY TRADE

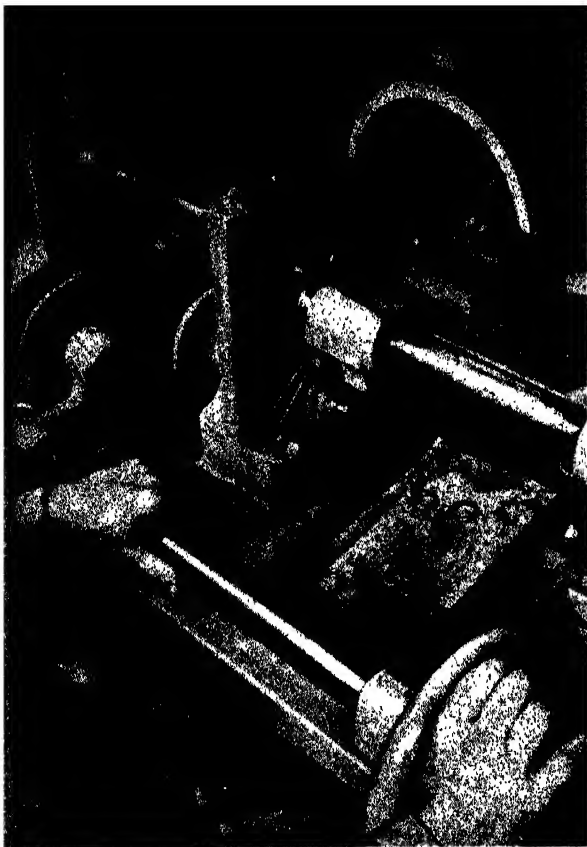
low: A steel roller compresses bars to thinness required for links from which rings will be punched out.

ight: Seamless "washers" are punched out of gold blank. When sized, shaped, and ornamented, they will be wedding bands.

elow right: Washers are rounded, compacted in dies under pressure of 30 tons. Gold now will wear well, take high luster.

Photos courtesy Artcarved Rings





Upper left: Rounded washers are shaped, sized by pressure between fast-turning spindles. Note washers, rings in tray

Above: Inner surface of wedding ring is stamped by spindle-shaped die with trade mark and "14K" gold quality mark.

Lower left: A broad wedding band is chased by a skilled craftsman. Unlike engraving, chasing removes none of the metal.

Below: Polishing with jewelers' rouge gives a ring a high luster. The denser the gold, the longer the luster lasts.

Photos courtesy Artcarved Rings



bill known as the "Stamp Act," which was undoubtedly the entering wedge in the struggle which finally separated the colonists and the crown. At this period in the history of the nation the colonies that could boast of the richest inhabitants, and which could, therefore, afford to spend the greatest amount of money for jewelry and other articles of personal adornment, were South Carolina, Virginia, Maryland, New York, Pennsylvania, and Massachusetts.

When compared to the facilities afforded to jewelers at the present day the tools of the old-time silversmiths were crude enough. The only noticeable difference between them and those used by workers in other metals was in their size, a factor which fitted them for finer work. The extreme tenuity and the lack of brittleness of gold and silver gave room for the exhibition of great ingenuity on the part of the artist who aspired to forget the ordinary patterns in the creation of more fanciful designs, while the attainment of the polished, or burnished, surface made a more tender treatment imperative. In the beginning of the century the art of frosting gold like that of satin-fining silver, was unknown. Gold and silver both came from the workshop with a glittering surface, and such ornamental and decorative work as may then have been attempted was either crude enameling, applied work or engraving. Later, of course, came all the new processes by means of which the precious metals have been used conjointly with other metals, or with wood, mother-of-pearl, glass, porcelain pearls and gems.

In those days everybody who engaged in the industry of jewelry-making learned his trade so thoroughly and in such an old-fashioned manner that it was impossible to draw the close distinctions between the several different but associated occupations that are so clearly drawn today. At that time, to say that a man was a "jeweler" indicated that he was a goldsmith and silversmith, a watchmaker and clockmaker and a maker of fine mechanical instruments, for each of these branches involved a knowledge of the others. At the same time the trade was thoroughly a mechanical one, and any attempt to realize a higher ideal in the making of jewelry and other ornaments was most unusual. Instead of "wasting his time" over such inventions the artisan devoted all the hours of labor to such work as might be assigned to him, even dividing his time and skill between his own and kindred trades. To a similar degree the seller of such goods was more frequently a workman than a dealer. While a merchant in the strict sense of the word, he was usually a person who could take his place at the bench if necessity required, and who owed his success as a salesman to his knowledge of the various kinds of metal and fancy work for the adornment of the person. Gradually, as the demand for such goods increased, the more progressive of these merchants began to manufacture the simple articles which they sold, although it was some time before this branch of the industry had extended beyond the making of spoons, forks, rings and similar small pieces.

The first American manufactory of jewels is said to have been that established in Newark, N. J., in 1790, by E. Hinsdale, who died 20 years later, and was succeeded by his partner Mr. Taylor. The New York of 1820 could boast of but two manufacturing jewelers, G. F. Downing and a Frenchman by the name of La Guerre.

The revolutionary hero, Paul Revere (1735-1818) was originally trained as a goldsmith and silversmith, and he practiced his art in Boston before the Revolution. The *Knoxville Gazette* of Oct. 20, 1792 contains the advertisement of a local goldsmith and jeweler who declares that he also makes rifles in the neatest and most approved fashion.

From the earliest days in the history of the jewelry trade, Providence, R. I., has been one of the great centers of this industry. It was shortly after the close of the Revolutionary War that Messrs. Sanders and Pitman and Cyril Dodge began to make silverware in that city. As early as 1805 there were no less than four establishments located there. They were operated by Nehemiah Dodge, John C. Jenckes, Ezekiel Burr, and Pitman and Dorrance, and their product, to make which they employed about 30 men, included silver spoons, gold beads and the simplest designs in finger rings. A few years later some of these manufacturers began to turn their attention to cheap jewelry in which silver and other alloys were used with a small fraction of gold. These included many small articles like breast pins, earrings, key rings, sleeve buttons, etc., as well as some large articles which were plated by the hammering process. The first jewelry establishment at Attleboro, Mass., a town which has continued to hold a prominent place in the trade, was opened about 1805, while the establishment of the business in Newark, N. J., by the firm of Hinsdale and Taylor dates from about the same time. Philadelphia also became identified with the early jewelry interests. The firm of Bailey and Company was one of the first manufacturers in that city, and its trade with the West and South soon became so extensive that the concern became known as one of the most prosperous in the business.

Maiden Lane, New York, did not become the center of the American jewelry trade until about 1830. The demand for jewelry inspired new ideas in manufacture, and, as much of the desire for novelties originated in New York, that city naturally became the market for the introduction of such products. In the *New York Mercantile Register* for 1848-1849, one may find the advertisements of the following houses, which were then prominent manufacturers of jewelry, watches and silverware: Ball, Tompkins and Black (late Marquand and Company), 247 Broadway; Allcock and Allen, 341 Broadway; Gale and Hayden, 116 Fulton Street; Tiffany, Young and Ellis, founded in 1837, Charles L. Tiffany, founder, the forerunner of Tiffany & Co., 271 Broadway; Wood and Hughes, 142 Fulton Street; Samuel W. Benedict, 5 Wall Street; George C. Allen, 51 Wall Street; Squire and Brother, 92 Fulton Street and 182 Bowery. Some of these houses have since gone out of existence; only one now retains its original name.

Although great advances have been made in every branch of American art there is no particular in which it is more pronounced than in the metal work which is so conspicuous a part of the art of the gold and silver smiths, and the fact that the American product is now regarded as superior to that of any other country of the world is not only due to our knowledge of the art in itself, but is largely the result of our wider knowledge of the articles into whose manufacture good taste enters. Today the designers employed by the great gold and silver smiths of

America are not only men of refinement and liberal education, but they are so truly artists, in the best sense of the word, that they could, if required, draw or model from life, or paint in oils or water-colors. It is largely due to the efforts of such men that so much advance has been made in the making of ornamental gold and silver ware during the past half century, a progress which is indicated by our exhibitions of such articles as loving-cups, vases and presentation pieces.

The discovery of gold in California, in 1848, naturally gave a great impetus to the manufacturing jewelry industry, for it gave assurance of an ample supply of metal needed for all purposes without the cost of importation, and if, at that time, we were lacking in knowledge as to the various forms in which the art of the smiths had been developed, it needed but such expositions as those at London and Paris to perfect our education in that respect. With such secrets revealed to us, however, it took but a comparatively short time for us to acquire the inventions in machinery and tools necessary to the reduction of the cost of production, and it is largely due to our success along these lines that we have been able to lead the nations of the world in this branch of the fine arts.

The process of electrometallurgy was introduced about 1860, and since that time all kinds of goods in which plating has been employed have been made by this method, the centers of production being located chiefly throughout Connecticut, although there are other large plants at Newark, N. J., and Providence, R. I. Speaking from a strictly commercial point of view it is almost impossible to overestimate the value of this process, for it has brought within the reach of people of limited means an attractive line of tableware and other articles of utility that are now deemed indispensable in every household. If not as artistic and as highly finished as solid silverware they are extremely serviceable and there can be no question but that the better grades of such goods possess considerable artistic merit. In fact, for a time at least, the silver-plated ware encroached upon the province of solid silver, but during more recent years the low valuation of silver bullion, and the mechanical inventions which have further reduced the cost of production, have tended to reverse the tables.

The production of watches is so closely related to the jewelry trade that some reference must be made to it in any review of that industry. It was but a comparatively short time ago that all watches were imported, whereas today we have progressed so far it is only some very small watches for ladies' use and some particularly complicated chronographs that are now obtained in Europe. All others are made in this country, the industry being largely centered in New Jersey, Massachusetts and Illinois. In its consumption of diamonds and other precious stones America will also compare favorably with other nations, New York being the largest market for such gems in the world. Although it was but a few years ago that the art of diamond cutting and polishing was established in the United States, our wise tariff regulations have given such an impetus to this branch of the trade that some of the most expert cutters from the Netherlands have now located in this country.

So far as statistics go we have but little material concerning the early history of the jewelry

industry. We know that, in 1812, the value of the Providence product was but \$100,000, and that, as late as 1860, the returns from all parts of the country were small as compared to those of the present day. In that year, for example, the jewelers and watchmakers of Philadelphia produced but \$691,430 worth; the silverware manufacturers, \$516,000 worth, and the makers of watchcases and chains, \$1,714,800. The production of gold chains and jewelry at New York was \$2,497,761; of gold watchcases, \$337,690, and of silverware, \$1,250,695. In Newark, the total product was \$1,341,000, while Providence produced \$2,251,382 in jewelry and \$490,000 in silverware. The following statistics from the *Census of Manufactures* for the year 1937 show the importance of the jewelry and silverware industries in that year, although both had shown a decrease during the years of the financial depression:

	Jewelry	¹ Silverware
Establishments	974	136
Employees	20,368	11,361
Wages paid	\$23,272,000	\$13,789,000
Cost of materials	43,915,000	22,610,000
Value of products	96,601,000	56,733,000
Value added by manufacture	52,685,000	34,063,000

¹ Plated ware is included with manufactures from sterling silver in the census figures for 1937.

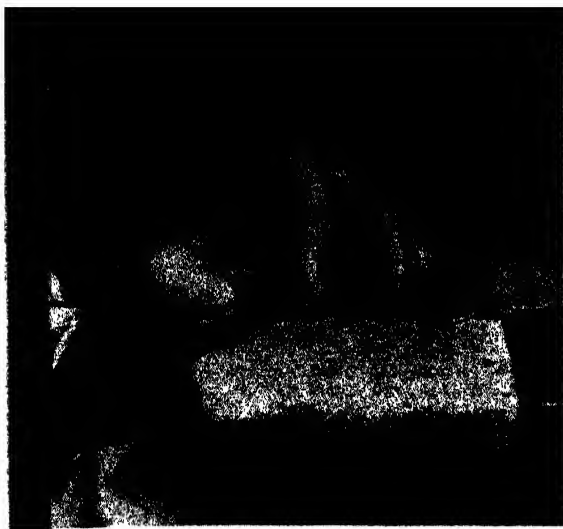
During World War II when platinum was not available to the jewelry trade, because of being a strategic metal, palladium was used in its place. This latter metal is approximately one half as heavy as platinum and is, therefore, particularly useful in the manufacture of earrings. Following the war there was a return to the use of platinum in the jewelry trade, although palladium is still used for some items.

There has been an increase in the use of gold-plated and gold-filled articles, especially in costume jewelry. Advances in wartime metallurgy resulted in the development of several inexpensive alloys, which have also found wide use in the manufacture of costume jewelry. The yellow of gold and the whiteness of platinum and palladium have been imitated by these base metal alloys.

Czechoslovakia has resumed again its role as the leading supplier of colorless imitation stones. Made of glass, these imitation stones are generally given a foil backing which lends a "sparkle" and "fire" that the glass alone does not have. When mounted in clips, pins, bracelets and earrings, the items are sold as "Rhinstone" jewelry. The inexpensiveness of these foreign importations is due to the fact that the glass stones, regardless of size, are molded to shape. By this method, mass production is possible.

Many technical advances in the plastic field have resulted in an influx of inexpensive jewelry made wholly or in part of plastic materials. One of the greatest uses of plastics is in the manufacture of beads which can be made in a wide variety of colors. Lucite, bakelite, and casein are three of the well-known types of commercial plastics used by the costume jewelry manufacturers.

The most successful excursion into the costume jewelry field following the war has been in the manufacture of imitation pearls. The number of individual imitation pearls produced in a single year has assumed astronomical proportions. One United States supplier in 1949 alone turned out over 5 billion plastic cores for making imitation pearls. Imitation pearls are normally



First step in making bracelet of ancient Roman design is to cut outline in strip of sterling silver. Scallops along edges will form shell motifs. Cuttings are salvaged for future use.



Lines of shell design are cut with gravers (knob-handled tools). Cuts are fine, light at first, and are made progressively deeper. Slender tools at right are files for modeling lines.

JEWELRY TRADE

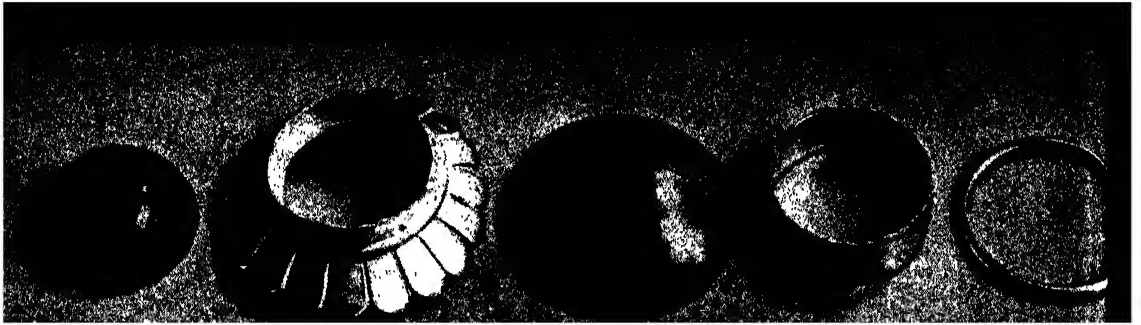


Shell forms are rounded out with blank rests face down on a lead and does not seriously mar design



dapping punch. Bracelet which gives with blows on face.

Bracelet setting for ornamental stone begins as small silver dome, shaped in steel dapping die. Silver is made pliable by being heated cherry red, then quenched in water.



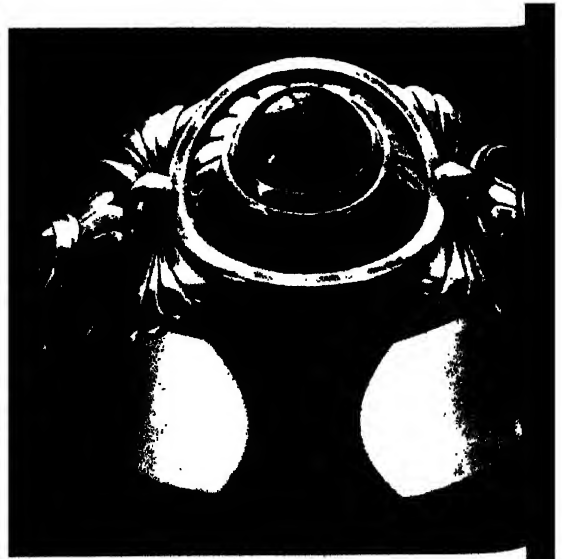
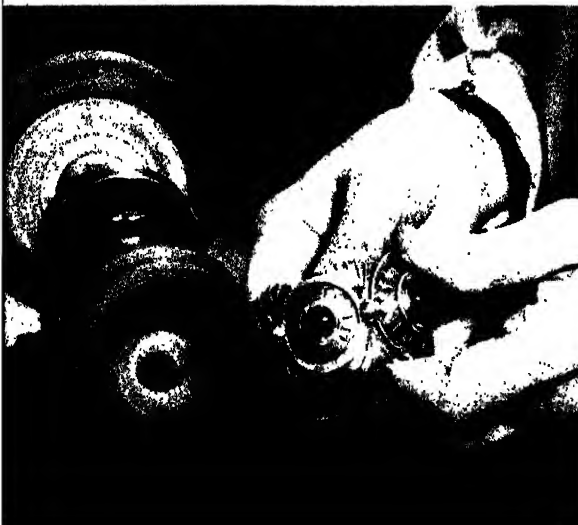
Above: Silver dome for bracelet setting (center) will have soldered to it silver bezel (next right) and ring of silver wire (far right). Completed setting (second from left) has center of dome sawed out, with rim left as bearing for stone (far left). Left: Settings are soldered in place with gas torch. Bracelet rests on charcoal block, which reflects heat.



Above: Stone is set in bezel with special tool that forces metal around and over stone. Tool marks will be burnished away.

Below left: Buffing with jewelers' rouge brings out highlights of silver, previously antiqued in sulphur dioxide fumes.

Below right: Finished bracelet conveys feeling of heavy richness. is lighter than it looks. Stones are lapis lazuli.



'Post-Dispatch' pictures from Black Star

of two types—those made entirely of plastic; or those using a glass core. The glass beads, in turn, are of two kinds; hollow, or solid. Plastic beads must be coated with an iridescent lacquer to give them a pearly "look." Glass beads are usually dipped in pearl essence.

The basis of pearl essence is an organic substance called guanine, the crystals of which are derived from fish scales. These scales are only obtained from certain species of herring-like fish, such as the bleak or alewife. To produce pearl essence it is necessary to combine guanine (50 per cent) with a solution of nitrocellulose (35 per cent) and amyl acetate (15 per cent). An estimate of the number of pounds of pearl essence used by imitation pearl manufacturers over a ten-year period is given as follows:

1939	— 10,000 pounds
1940	— 10,000
1941	— 10,000
1942	— 15,000
1943	— 15,000
1944	— 15,000
1945	— 15,000
1946	— 15,000
1947	— 18,000
1948	— 20,000

An interesting postwar development was the method devised to coat photographic lenses with a microscopically thin layer of fluoride. It was then found possible to transform a colorless, imitation stone into one possessing vivid iridescence, and some of these stones have been used by costume jewelry manufacturers.

Concentrated X-ray irradiation and even cyclotron bombardment have been used in an effort to improve or change the color of genuine stones. In some cases the color transformation is permanent; in others, it is not. For instance, diamonds bombarded by cyclotron irradiation will, in a matter of seconds, turn a brownish-green. The discoloration, however, has been found to be only skin deep and repolishing, or the application of moderate heat, usually returns the gem to its natural colorless, or faintly colored, state
TIFFANY & Co.

JEWETT, Charles Coffin, American librarian: b. Lebanon, Me., Aug. 12, 1816; d. Braintree, Mass., Jan. 9, 1868. He was graduated at Brown University in 1835 and from the Andover Theological Seminary in 1840. He was librarian at Andover while studying there and prepared a catalogue of the library. He was appointed librarian at Brown University in 1841 and professor of modern languages there in 1843. He was librarian of the Smithsonian Institute at Washington in 1848-1858, and thereafter until his death was superintendent of the Boston Library. His work in rearranging and cataloguing the library at Brown University attracted wide attention, the merits of his system being recognized in Europe as well as in the United States; and he established in the new library at Boston one of the first library card catalogues. His work was largely pioneer in modern library method and his system has served as a model in both United States and Canada. His writings on the subject of library economy are of importance. Author of *Facts and Considerations Relative to Duties on Books* (1846); *On the Construction of Catalogues of Libraries and their Publication by Means of Separate Stereotyped Titles, with Rules and Examples* (1852); *Notices of Public Libraries of the United States* (1854).

JEWETT, Sarah Orne, American novelist and writer of short stories: b. South Berwick, Me., Sept. 3, 1849; d. there June 24, 1909. She was educated at Berwick Academy and became a contributor to the *Atlantic Monthly* in 1869, in which periodical the larger part of her work appeared. Her usual theme was the New England character seen from its most attractive side, its gentler aspects given greater prominence and its harsher ones not unduly emphasized. Her works include *Deephaven* (1877); *A Country Doctor* (1884); *The Story of the Normans*, an historical work (1887); *Tales of New England* (1890); *The Country of the Pointed Firs* (1896); and many other novels and short stories.

Consult her *Letters*, edited by A. Fields (Boston 1911), and Matthiessen, F. O., *Sarah Orne Jewett* (Cambridge, Mass., 1929).

JEWETT CITY, Conn., borough in the town of Griswold, New London County; alt. 120 feet; 9m N.E. of Norwich; on the New Haven Railroad. A manufacturing center, it has rayon and cotton textile mills. Pop. (1950) 3,702.

JEWFISH, a huge Californian game fish (*Stereolepis gigas*) of the sea bass family (Serranidae). It has a single dorsal fin, the soft part of which is shorter than the spinous portion, and is brown with black blotches and becomes much darker with age. Among the dense growth of kelp in moderately deep water along the coast of southern California the jewfish finds a congenial home. Belonging to a family of game fishes, and reaching a weight of 300 to 500 pounds, it has long been a favorite object of sport for ambitious anglers.

Two other fishes of the same family but more closely related to the groupers are known as the Florida or black jewfish (*Garrupa nigrita*) and the spotted jewfish (*Promicrops, puitatus*). The former ranges from Florida to Brazil, and the latter widely through the warm parts of both Atlantic and Pacific oceans. The black jewfish, not especially gamy, is distinguished from the Californian jewfish by its greater robustness, strong canine teeth and rounded caudal fin.

Consult Jordan, David Starr and Evermann, B. W., *American Food and Game Fishes* (New York 1903); Holder, F., *Big Game Fishes of the United States* (New York 1903).

JEWISH CALENDAR. The Jews date their era from the Creation, which according to their tradition was 3760-3761 years before the Christian era. The Jewish year is a lunar year and consists of 12 months with an additional one for leap year. The months have alternately 29 and 30 days, the 1st and 30th days being called New-moon. Each cycle of 19 years has 7 leap years, the 3d, 6th, 8th, 11th, 14th, 17th and 19th. The spring months are called Nisan (in which the Passover is celebrated), Iyar, Sivan; summer includes Tammuz, Ab, Elul; autumn, Tishri, Heshvan, Kislev; and winter Tebeth, Shebat, Adar, with 2d Adar for leap year. The civil year began with the month of Nisan; the religious with Tishri. Rules for the computation of the calendar were issued, after various methods had been employed in earlier centuries, by Hillel II (330-365). The date usually assigned by Jewish writers to the year when Hillel fixed the calendar is 670 of the Seleucid era, or 4119 A.M., or 359 of the Christian era.

Consult *Universal Jewish Encyclopedia* (Vol. II, New York 1940).

JEWISH HISTORY AND SOCIETY.

This symposium, intended to constitute a balanced account of events and movements in Jewish history, of concepts and institutions in Jewish religion, of the historical interrelation between Jewish religion and society, and of the sociological structures in the main Jewish communities, is divided into 23 sections which appear below. Additional and related material may be found in separate articles on HEBREW LANGUAGE AND LITERATURE; HEBREW MUSIC; ISRAEL; and PALESTINE.

Ancient and Medieval Times

1. History: From Traditional Beginnings to the French Revolution
2. Judaism
3. Origins of Israel
4. Kings and Prophets
5. Expansion of Judaism
6. World of the Talmud
7. Within the Ghetto Walls

Modern Period

8. History: Jews of Europe from the 18th Century to World War II
9. Hasidism
10. Emancipation
11. Haskalah
12. Religious and Philosophical Movements
13. Yiddish Language and Literature
14. Nationalism
15. Anti-Semitism
16. Zionism
17. Jews in Modern Palestine

Sociological Survey

18. Ethnic Status of the Jewish Group
19. Religious Traditions and Customs
20. Education
21. Community Organization and Social Welfare
22. Social and Economic Developments in the 19th and 20th Centuries
23. Jews in the United States

1. HISTORY: FROM TRADITIONAL BEGINNINGS TO THE FRENCH REVOLUTION. The Biblical Era.—The history of the Jews begins with half legendary figures in the twilight of Ur of the Chaldees. It passes from family, clan, and tribe, to nation and people, through nearly every civilized land of the Western World. It deals with violent changes in fortune: security in a Holy Land of promise, and dispersion through all the continents; supreme ethical guidance and stifling superstition; the dignity of achievement and the degradation of exploitation and exclusion. But through it all runs one compelling force, which neither the centuries nor the slings of fate could weaken—the powerful sense of a unique destiny felt by every generation of Jews. Early Biblical writers expressed this sense of destiny through the concept of a “chosen people.” The prophets expanded it to mean living on the highest level, a “choosing people,” whose very sorrows were a chastening influence. The rabbis crystallized it into an austere discipline. The great modern sages and teachers thought of it as a mission to spearhead the fulfillment of universal peace and brotherhood.

But from the wilderness of Sinai to the courts of the Temple where Isaiah served; from the academies of Babylon to the golden cities of medieval Spain; from the schools of Vilna to the mountain retreats of the mystical Baal Shem-Tob; and from the patriarchs of Genesis to the modern Einstein and Brandeis, representative Jews have always lived under the influence of this historic sense. They would not think of themselves as individuals; they were part of a stream of historic consciousness. As a people, they were an instrument of God's will to fashion a world where

men would live with clean hands and a pure heart.

This strong sense of destiny explains why a people, few in numbers and scattered through every nook and cranny of the world, with nearly every man's hand against them, still managed to survive, and to justify their physical survival by a record of creativity which would be astonishing for great nations anchored to soil and security.

Age of Fable.—The Biblical narrative begins the history of the Hebrews in the Tigris-Euphrates valley with three divinely inspired patriarchs, Abraham, Isaac, and Jacob, to whom God promised descendants destined to become a blessing to mankind. In this narrative, tradition was perhaps dimly reaching back to the days of the great migrations of Semitic tribes into the alluring reaches of the Fertile Crescent skirting the vast Arabian desert. At some stage in the wanderings of these tribes, certain gifted characters may have impressed themselves so strongly on the memory of the people, through benevolence, wisdom, or courage, that later chroniclers wove about their names the legends continuously cherished by those who love the Bible. At any rate, the patriarchs are traditionally the progenitors of the Hebrew people.

The descendants, or as the Biblical narrative puts it, “the children of Israel,” increased in numbers in the course of their wanderings. At some point, perhaps as early as the 16th century B.C., there must have been a settlement in Egypt. There is no historic evidence to corroborate this, but every tradition points to a long sojourn along the Nile; a quiet pastoral life, in which the Hebrews multiplied greatly, gaining wealth, and some even rising to highest estate.

Suddenly conditions changed. “A Pharaoh arose who knew not Joseph.” There was apparently a sharp anti-Asiatic reaction which reached out against all aliens in the land. There was actual oppression and reduction to serfdom. Folklore develops many details of the galling servitude of a free people who “toiled in mortar and brick and in all manner of service in the field.” The oppression probably lasted until the decline of the 19th Egyptian dynasty, sometime in the 13th century B.C. During the distress and the confusion of invasion from without and civil war within, it may be that the Hebrew serfs broke their bondage and returned to the wilderness that bore them.

The memory of the Egyptian episode was never permitted to become dim. The Hebrews prefaced many of their later laws, significantly, with the phrases “Remember your bondage in Egypt”; “Once you ate the bread of affliction.” The Egyptian episode left a permanent mark. It influenced all future social thinking about the rights of the weak, the underprivileged, and the dispossessed.

Moses.—The hero of the emancipation, and the real father of the Hebrew people, was the 13th century Moses, of whom Heinrich Heine has declared that he makes Sinai seem puny by his grandeur.

The Biblical narrative portrays Moses in the dual role of leader and priest-prophet, creating the nation out of scattered tribes; the promulgator of the Hebrew religion and its laws. It goes into admiring detail about his romantic origins, his life in the Pharaoh's palace, his vengeance upon the Egyptian who was abusing a Hebrew serf, his flight into the desert, and his divine call



Above In modern Israel, motor transport and irrigated fields reflect the young nation's use of advanced technology to build a future.

Right On the Mediterranean island of Djerba, Tunisia, pious Jews carry on ancient forms of worship.

(Above) courtesy United Palestine Appeal, (right) Waagenaar-PIX Incorporated



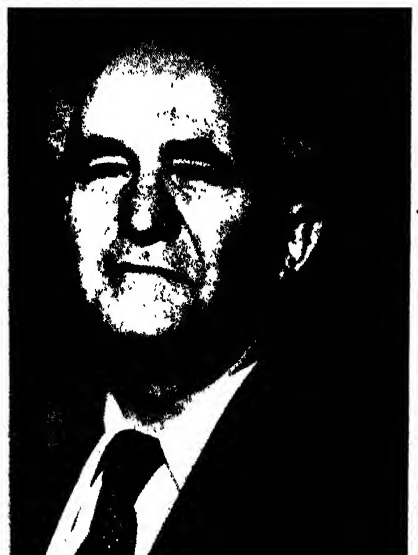
JEWISH HISTORY AND SOCIETY

Left Chaim Weizmann, veteran Zionist leader, as he listened to debate during negotiations that eventually led to formation of the state of Israel. Weizmann served as Israel's first president, from 1948 until his death in 1952.

Lower left David Ben-Gurion, after a lifetime devoted to Zionism, became the first prime minister and defense minister of Israel.

Below Israeli workmen erect buildings for a new settlement.

(Left) Duenner-PIX, (lower left) Rosenthal-PIX; (below) United Palestine Appeal





Above left: An inscription on an 18th century ceremonial wine cup of gilded silver enjoins Sabbath observance.

Above center: A scene from the Book of Esther on an 18th century pewter gift plate signalizes the Purim festival.

Above right: An 18th century tower-form container of silver with embossed cutout, and cast ornaments for ceremonial spices.

Left: A page of the Prague Pentateuch (1514), first Hebrew book printed in central Europe.

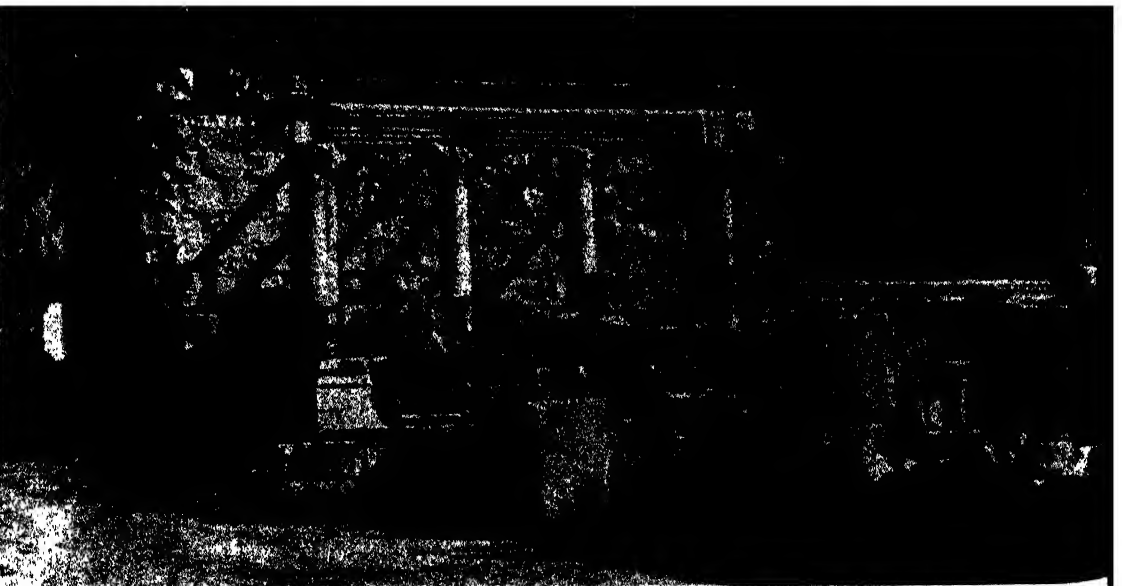
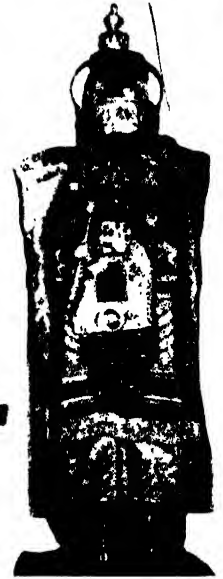
Right: The holiest object in a synagogue is the Scroll of the Law, or Torah, here shown in traditional vestments of crown, breastplate, mantle, and pointer.



Above: The Shofar or sacred horn calls Jews to spiritual rebirth at the New Year. This ram's horn was made 1781-1782.

Below: Synagogue ruins excavated at ancient Capernaum show Roman influence. They date from the 2d century A.D.

(Right) Virginia F. Stern—The Jewish Museum; (below) Herbert S. Sonnenfeld; (others) Frank J. Darmstadter—The Jewish Museum



to return and free his people. It describes his long, miracle-studded negotiations with Pharaoh, his spectacular adventures in the Exodus from Egypt, his brilliant leadership in the desert, and the climactic episode of the promulgation of God's law at the foot of Sinai.

Though these stories may be almost entirely a compote of legend and lovable fantasy, the historic impact of Moses cannot be overestimated. What his people believed about him was infinitely more important than what actually happened to him as a person. The Moses of tradition is one of the most influential personalities in Jewish history, and one of the spiritual titans in the religious development of the West.

Settlement in Palestine.—For many years the Hebrews lived in the desert as typical nomadic groups, loosely bound together by common traditions and a common faith. Their settlement in Palestine, traditionally ascribed to the 12th century B.C., was not the result of a quick military conquest. It was apparently a slow, filtering-in process, wave by wave, tribe by tribe, over a long period of time. The land-hungry nomads came, fought for a foothold, fell back, returned, conquered a piece here and a piece there, intermarried, and settled down. For many generations, however, they could count on no security.

The story of this tumultuous period is to be found in the books of Joshua and Judges, where the long and desperate wars are described as battles by local Hebrew chieftains against successive tribal enemies. The struggle was prolonged because the Hebrews were not really a solidly united military force. Sometimes a few tribes co-operated, as in the battle against Sisera, in the time of the prophet Deborah; but such union was only temporary. Inevitably, each little group relapsed into its own petty concerns. It was not until the all-encompassing danger of the Philistines compelled union for survival, that a more permanent cohesion was achieved, and a new era began for the Hebrew people on the soil of Palestine.

Creation of the Monarchy.—The Philistines, probably a non-Semitic people hailing from Crete and the Greek islands, had been moving into the coastlands of Palestine all through the early 12th century. Meeting only feeble resistance, they edged further and further inland until they held half of Palestine.

Cities like Gaza, "the outpost of Africa, the door to Asia," began to dominate the life of the country. The Philistines soon were crowding out some of the Hebrew tribes. The Biblical tales of Samson and Delilah, the wars of Ephraim and Manasseh, the capture of the Ark of Yahweh, all point up the overwhelming menace that the Philistines had become. This danger ultimately united the Hebrews. It called up a powerful young farmer, Saul, who led the Hebrews in successful resistance and saved Palestine.

Saul and David.—Out of the Philistine crisis came the first Hebrew monarchy, whose rise and fall is detailed in the books of Samuel and Kings. Saul became the first king, midway in the 11th century B.C. The term king is misleading, however, if it is interpreted as royalty with the trappings of a national state. Saul was really a glorified judge, a kind of Biblical Cincinnatus who was primarily a coordinator of national need in a time when marauding enemies were always near. These enemies were often defeated but never completely vanquished.

Saul's successor, the redoubtable David, who became king in 1013, really established the Hebrew state and made it a Mediterranean power. He finally cleared the frontiers, pushing them back until they touched the mountains in the north and the desert in the south. He created Jerusalem as a national capital, and, by bringing back the captured Holy Ark, made Jerusalem also the center of religious devotion. David's personality was so dynamic, his achievements so versatile (the Psalms are attributed to his lyrical genius), that his name became a touchstone of national pride. The legends that grew up about him ultimately included the prophecy that even the Messiah himself would some day spring from the house of the peerless king.

End of the First Hebrew State.—The brief Hebrew monarchy reached its highest point under Solomon, David's son, who became king in 973 B.C. As the father had expanded the physical boundaries of the land, Solomon expanded its cultural boundaries. He built substantial cities, reached for important markets, and established cordial relations with many prosperous surrounding states. He built an imposing Temple which, long after it had been destroyed, remained for the dispersed generations a symbol of the majesty of God.

Unfortunately, Solomon was not too discreet about the taxes that were required for all of the cosmopolitan innovations of his reign. He forgot that he was dealing with a simple agricultural people who did not understand palaces, finery, and harems. His son, Rehoboam, had even less understanding of the undercurrents of resentment that were developing. The result was a violent revolt of the northern tribes in 933 B.C., and the splitting of the Hebrew state into two kingdoms.

The rupture, never to be healed, ended the 70-year-old monarchy's brief period of influential political existence. Powerful states were growing up, to the east and west, whose imperialism could not have been resisted even had there been complete unity. Divided into two minuscule sections, torn by internal dynastic feuds, both kingdoms moved fast toward oblivion. The northern kingdom of Israel lasted about two centuries (until 722 B.C.), and its history was one of continuous strife. The southern kingdom of Judah survived a little longer (until 586 B.C.), and then it fell to the onrushing Babylonians.

Under the Ancient Empires.—*Babylonian Exile.*—The Assyrians, who conquered the northern kingdom of Israel, exiled 30,000 of its inhabitants and resettled the territory with captives from other lands. The exiles were quickly assimilated by their new environment and disappeared from history as an organic entity.

The Babylonians, who conquered the southern kingdom of Judah, also resorted to transplantation. But these men of Judah, the most vital and articulate elements of the land, carried with them a strong sense of nationalism. They refused to disappear. In exile, their prophets, notably Ezekiel, taught them that they were heirs of a great tradition, that they had a unique destiny to fulfill, and that the dry bones in the valley would some day again be infused with the breath of life. The exiles met regularly, ostensibly for prayer and for the continuation of religious practices, which could no longer be centered in the Temple. Their meetings served even more, however, to strengthen their will to live. The meeting places, which served as community gathering

points, developed into the synagogue, an institution which became permanent. It was to accompany the Jews in whatever parts of the globe they were destined to live.

Return to Palestine.—The prophets had insisted that there was no permanence in empires, however solidly grounded. A day came, late in the 6th century B.C., when Babylon's might drained out; and the dynasty, whose very breath had roused terror, began to totter. A new star was rising, the kingdom of Persia. In 539 B.C., the last Babylonian king, Belshazzar, was slain at one of the fantastic midnight orgies for which he was famous. Proud Babylon went down "to the lowest pit like the corpse that is trodden under foot" (Isaiah 14:19). The conquering Persian king, Cyrus, apparently in 538, granted permission to certain Jewish exiles to return to Palestine and to rebuild their devastated Temple. A small group of stalwarts took advantage of the offer and joined the loyal remnant that had remained in Palestine all through the years of the locust.

Reconstruction was a painful process. The land was difficult; living standards were a severe trial even to the most unswerving idealists. Many a pioneer decided to return to the easier comforts of Babylon. It took the constant exhortations of the prophets Haggai and Zachariah to keep up flagging enthusiasm. But at last, in 516, a full 20 years after the edict of Cyrus, a new Temple was dedicated. It was destined to stand for 500 years, and though humble and unadorned, it became the center for renewed worship and renewed national zeal.

Life in Palestine during the next two centuries was rather primitive. The country could not recover its earlier prosperity and was continually wracked by the wars of the competing empires surrounding it. It was in this period that the foundations were laid for a new Judaism, Pharisaic Judaism.

The Torah, essence of Jewish law, developed out of the travail of this transition period. Liberal spirits sometimes chafed because the burning words and lofty principles of the prophets were now encased in routine laws and binding customs. Abstractions alone, however, could not influence daily living, and discipline was as important as inspiration. The Torah put into concrete form the religious idealism of the prophets. It created a clear set of principles by which to live—principles which helped to link up Jews scattered in all parts of the world, when common land and a common language were no longer present as cohesive elements.

Greek Domination.—Late in the 4th century B.C., the known world came under the domination of Alexander the Great. So long as Alexander lived, the empire which he conquered was tightly held. In 323 B.C., Alexander died. He had trained no successor to follow him, and his generals fought among themselves for all the spoils they could garner. Little Palestine shared the fate of other strategically placed territory, and for 50 years was a pawn in the imperial struggles. Josephus compares Judah in this period with a ship in a storm, smitten on either side by waves. Finally, in 198, the Seleucid dynasty won control of Palestine and, for the moment, the Jews forgot the threat from the Ptolemies of Egypt.

There were other, more serious, fears, however. The Greek conquerors had brought with them alluring pagan practices which were under-

mining loyalty to the austere practices of Jewish religious life. The young people especially, carried away by Greek sports and Greek fashions, were soon imitating Greek religious paganism and Greek morals. This process of assimilation might have ultimately swallowed up Jewish life, succeeding where force had always failed, if a stupid king, Antiochus Epiphanes, had not come to power in 175 B.C. Impatient with the stiff-neckedness of the Jewish leaders, he issued an edict prohibiting, on pain of death, further observance of Jewish practices, and compelling loyalty to the pagan abominations which he substituted.

Persecution bred a new spirit and reunited the quarreling factions among the Jews. Revolt flared and the tiny Jewish community, led by the valiant and resourceful Hasmonaean family, pitted itself against the might and power of the Greek legions. The Jews, as so often in their history, drew strength from their sense of destiny. God would not let them die. "Horns grew upon the lambs," the book of Enoch eloquently says. Antiochus was overwhelmed with military problems in many other parts of his empire. The constant harrying of his troops by the Jews wore them down. In 142, Simon, the last of the Hasmonaean brothers, won remission from tribute, and was recognized as the high priest and leader of Judah. Once again the little Jewish state was independent.

The first years of independence were prosperous and vital. Simon, the ablest of the Hasmonaean, was an admirable reconstruction leader (he refused to call himself king). He cleared the soil of remaining enemy garrisons, completed trade treaties with surrounding states and, for the first time in Jewish history, struck Jewish coins.

Unfortunately, Simon's successors were not cast in his heroic mold. They were limited in vision and more concerned with personal power and fortune than with the welfare of the state. The people lived simply and with discipline, their Pharisee leaders developing those rich Jewish traditions which fundamentally influenced all subsequent Jewish religious life. The rulers, however, succumbed to intrigue, and the political and diplomatic history of the state reproduced the worst evils of the surrounding Oriental despotisms.

During a period of internal dynastic squabbling, one of the claimants for power appealed to Pompey of Rome to intervene and he complied with alacrity. In 63 B.C., Pompey's legions cut their way into the Judean capital. Palestine became a Roman province, though nominally a puppet Jewish dynasty survived.

House of Herod.—The Jews were now embroiled in all the internal quarrels of Rome. Each time power was transferred to a new military pretender—Pompey, Caesar, Antony, Cassius, Octavian, Crassus—Palestine paid in plunder or in tribute for the insensate feuds.

During the turmoil, the house of Herod supplanted the Hasmonaean dynasty. Herod was half Jewish, half Idumaean, and a complete pagan in outlook. His obtuseness was clear when he offered sacrifices of thanksgiving to Jupiter for having been made king of the Jews. Hence, his attempts to win over his new subjects failed completely. He tried to please them with physical improvements, lavishly built cities, favorable trade treaties, and reduced taxation. He even rebuilt the Temple. His efforts, however, were met

with sullen hatred and scorn. He became more and more embittered and suspicious, and the end of his reign was made hideous by wholesale executions which included his lovely Hasmonaeen wife and children.

End of the Second Commonwealth.—The political details of the next century need little emphasis. They were the usual pathetic combination of tyranny and oppression, with each Roman governor worse than his predecessor. The last few, by their rapacity, helped turn even moderate people into revolutionaries.

In 66 A.D., a great national rebellion broke out. There was no hope for its success against the most powerful armies of the ancient world, but it took four bloody years to reduce the fanatical garrisons of Palestine. It required months to take Jerusalem and the Temple. Of those who survived, thousands were transported to fight wild beasts in the amphitheaters of Caesarea and Antioch, or to slave to death in the mines of Sinai. Titus, the conqueror, built a magnificent arch in Rome, and the hardiest and handsomest of the rebels were reserved to grace the triumphal procession. The arch, with reliefs of the candlesticks and holy vessels of the Temple, still stands.

Even after the Temple fell, sporadic resistance continued in Palestine. One fortress, Masada, resisted for three years and, before it fell, the defenders slew each other so as not to be taken prisoner. At length, quiet was restored and the surviving remnants adjusted themselves to their peasant fate. For a generation, Palestine remained a petty province, almost forgotten by the Roman conqueror.

In 115 A.D., however, when Rome was troubled by widespread revolts in many parts of Asia and Asia Minor, the Jews, led by the teacher, Akiba, and the intrepid soldier, Bar Cocheba (Bar Kokba), rose with other rebel peoples. Trajan, and later his successor, Hadrian, determined to end the threat of future uprisings. The rebels were mercilessly put to the sword and the country was reduced to a shambles. The very name of Judah was discarded, and the province which had given the Roman legions so much aggravation was renamed Syria Palestina. Jews were forbidden, on pain of death, ever again to set foot in Jerusalem. Only on the ninth of Ab, the traditional anniversary of the destruction of the Temple, could Jews pay for the right to weep on the site of the old sanctuary. For centuries thereafter they "bought their tears," weeping over lost glories of the past; yet they never abandoned the hope that some day, in God's own way, a restoration would come and the Holy Land would once again rise from the ruins, rebuilt by Jewish hands.

Miracle of Survival.—The destruction of Jewish national life did not, miraculously, destroy the Jewish people. They lived on to play impressive roles in every age, in every land. History presents no parallel for the phenomenon. Many peoples have survived the destruction of their political independence—the Poles, the Irish, the Serbs, and others who have lived to see the rebirth of hopes never fully lost. But these peoples were never torn from their soil; however bitter the oppressions they bore, they remained united, and drew courage to go on from every site and every grave linked to the past.

The Jews, on the other hand, were almost completely dispersed. For all the centuries following the destruction of their state in Palestine

they had no common land, and, in time, no common language. Yet, they remained a people. Their secret lay in a common religious faith and an unshaken belief in their indestructibility. In the thousand years that followed the destruction of the state and the Temple, the Jews converted memories and traditions into what Heinrich Heine has brilliantly termed a "portable fatherland."

Alexandrian Era.—Long before an evil fate befell the Jewish settlers of Palestine there were far-flung Jewish settlements in every corner of the world. They were to be found in the Mesopotamian Valley, in northern Syria, in the Greek islands, and in Rome itself. The most influential Jewish community outside of Palestine was in Egypt.

The Jewish philosopher, Philo, estimated that nearly a quarter of a million Jews were scattered up and down the Nile in his own day, at the beginning of the Christian era. In Alexandria, which boasted of a population of a million, two of its five sections were almost exclusively Jewish. Here Jews rose to high estate and lived happy, thriving lives. They were profoundly influenced by the civilization of the Mediterranean world. Greek became their common speech, Greek ideas and customs permeated their lives. But they retained the essentials of the Jewish heritage even though its transmission now came through Greek language and format.

This is the period of the Septuagint, the translation of the Scriptures into Greek. This is the period of Philo-Judaeus, the most creative representative of the synthesis of Hebrew and Hellenic culture. Jewish life was vigorous enough to win converts. Many sensitive Greeks, repelled by the decay of pagan ideas and practices, were drawn to Judaism, if not officially, at least as firm admirers. The converts, referred to in the New Testament as "God-fearing Greeks," were welcomed by the Jewish communities and freely admitted to the services of the synagogue. It was among those whose spirits were leavened by Jewish concepts that the early Christians made their first converts.

The Babylonian Center.—Babylon had never ceased to be an important center since the 6th century B.C., when the kingdom of Judah had been destroyed by Nebuchadnezzar. Augmented by exiles and colonists, the population kept increasing, until a compact community of many hundreds of thousands had grown up. The story of the Jews in this area is a 1,500-year-old saga, one of the most fecund in the fateful Jewish adventure.

The opulent cities of Nehardea, Nisibis, and Mahoza, on the grand canal, as well as Pumbedita and Sura in the interior, became shining names lighting the darkness that shrouded Jews everywhere else. The Jews of Babylon were among the wealthiest caravan merchants and the most skilled artisans. In the countryside, they were successful as farmers, cattle breeders, and landowners. They formed a virtually autonomous unit, and their head, known as the *resh galutha* (prince of captivity), or exilarch, was accorded almost royal honors.

Inevitably, in such a background, the intellectual life of the Jews flourished. There were famous schools and academies in Babylon which became the center of the Jewish world, supplanting the schools of Palestine. This was the period when the Talmud was created, that vast com-

pendium of post-Biblical Jewish learning, which was the product of the genius of hundreds of scholars, mainly Babylonians.

There was a brief setback during the turbulent days of the Moslem conquests which began in the 7th century A.D. Islam emerged from the wastes of Arabia determined to take over the world. The countries of Asia Minor fell during Mohammed's lifetime and within a few years after his death. Babylon itself was conquered in 637, and a few years later all of the once magnificent Persian empire was in Moslem hands. By the end of the 7th century, the haunting cry of the muezzin, calling the faithful to prayer, was heard from minarets throughout North Africa and nearly all of western Asia.

The new conquerors, after the first impetuous sweep, were tolerant and did not compel their subjects to abandon their religious faith. There were restrictions for non-Moslems in politics and social life; but, within a century after Mohammed, most of these restrictions, too, had become dead letters. Jews continued to live undisturbed, and the period from the 8th century until the close of the 11th was a kind of golden age, unprecedented for peace, freedom, and creative achievement. The climax was reached in the time of Saadia, one of the great Jewish scholars, who dominated the intellectual life of the 10th century. Saadia not only profoundly influenced Jewish religious thinking, but he also laid the groundwork for some of the best work of St. Thomas Aquinas and other Catholic philosophers.

After Saadia's day, the decline started. The Turks had begun to make inroads in Asia and they had none of the benevolence of the earlier rulers. Jewish opportunity was first cut down by the turbulence of frequent wars, and then by the harshness of the conquerors' demands. The exilarchate foundered after seven centuries of glory. Hai, the last of the Gaonic leaders, was imprisoned by the ruling caliph and, in 1040, executed. The schools gradually closed, and a new center of Jewish life, in faraway Spain, beckoned. As the Babylonian scholars moved to the other end of the Mediterranean, the lights went out one by one, ending one of the most richly rewarding periods in Jewish history.

Rise and Fall of Jewish Life in Spain.—When most of the provinces of Spain adopted Christianity in the 6th century, there were already substantial Jewish settlements in the land. Some of these settlements went back to pre-Roman days. Unhappily, however, Christianity was often badly interpreted by the rulers, and wherever the Cross was triumphant, it meant repression for the Jews. The culmination of a century of violent persecution came under Egica (r. 687-701), who confiscated the possessions of the Jews, reduced them to the status of slaves, and prohibited the practice of their faith. It was inevitable that the Arab conquests of 711 and the years that followed, should be greeted with enthusiasm by the Jews, for the emergence of Moslem power meant new hope.

The Moslems held Spain for nearly seven centuries. It was an enlightened domination, marked by material prosperity and cultural and scientific brilliance. It proved to be a blessed era for the ever-increasing Jewish population, which entered very fully into the life of the country. Many of the Jews became landowners and financiers; others, prominent physicians and statesmen. They took advantage of the excep-

tional cultural opportunities, and made important contributions to medieval civilization by serving as the intermediaries between Arab and Christian learning.

The happy union of Hebrew and Moslem culture produced a renaissance in literature, philosophy, science, and religion. Even architecture flourished; some of the most beautiful churches of Spain today once served as synagogues and received the prayers of a proud and well-established Jewish community.

A few great names may be taken as symbolic of Jewish achievement during these seven happy centuries. Hasdai ibn-Shaprut, a 10th century statesman, served the court of the famous caliph, Abd-ar-Rahman, as physician and interpreter. Ultimately he became grand vizier, vitally influencing international policy. Samuel ibn-Nagdela, an 11th century diplomat, became the leading counselor for King Habus and his successor, King Badis. Solomon ibn-Gabirol and Judah Halevi, the two outstanding poets and religious writers in medieval Jewish history, were developed in 11th century Spain. Maimonides, whose writings illuminated the 12th century, was the most influential philosopher in Jewish history.

By the 14th century, however, the sands of good fortune were running out. The Spanish peninsula was being gradually reclaimed by Christian arms. Each new Christian kingdom that emerged meant, for Moors and Jews alike, an end to the policy of benevolence. The turning point came in 1391, when riots broke out in Seville. The Jewish quarters were burned and several thousand Jews slaughtered. These riots spread like a plague to every large city in Spain, bringing great suffering to all Jews.

Until 1391, those Jews who turned to Christianity were welcomed with open arms, and, after the riots, whole communities went to the baptismal font to escape death. Obviously their Christianity was only a façade, and most of the converts remained loyal to Judaism, practicing their ancestral faith in secret. Protected by baptism, they rose to the highest positions in commerce and in the professions, in the universities, and even in the church. They became known as *marranos* (probably "the damned" or "the swine"), and roused blazing hatred in the hearts of their Christian neighbors; for old Christians sensed the truth that the majority of the converts were still Jews at heart.

The denouement came soon. The church now began to take steps against the *marranos* and against all who could be proved heretics at heart. A new wave of persecution spread through the land, and *marranos* who were discovered received little consideration. The fires of the stake, the *auto-da-fé*, lit up all Christian Spain. No new Christian was safe. Bonuses were offered to those who betrayed secret relapses, and a premium was placed on the most hideous forms of treachery.

In 1483, Torquemada, one of the great fanatics of history, was made chief inquisitor. He determined to root out marranism and, while he was about it, to be forever rid of all Jews. He finally persuaded King Ferdinand to sign an edict expelling the Jews from the land, giving them four months to leave Spain. In August 1492 the mournful exodus began. At least 150,000 Jews (some estimates go as high as 500,000), the backbone of Spanish commercial and intellectual life, were driven out.

The proudest and securest Jewish community in Europe was thus beggared. A few thousand went to North Africa. A few thousand settled precariously in Italian cities. About one hundred thousand found temporary shelter in Portugal, but, after a few years, were expelled from there too. Some found refuge in Poland and some in Turkey, the only major countries that, at this time, opened their doors to the refugees.

There was no hope for the majority, however. For years after the Spanish expulsion, wretched families were found in every corner of the world, still seeking a place of refuge. The most horrifying part of the expulsion was the fact that few voices were raised in protest. The enlightened elements of Europe did not condemn Spain. Indeed, in 1496, Pope Alexander VI bestowed upon Ferdinand and Isabella the title of "Catholic" sovereigns, enumerating among their services the expulsion of the Jews.

Darkness in Medieval Europe.—It was really not to be expected that the states of Europe express horror at the Spanish action. In France, in England, in the several hundred states of the Holy Roman Empire, life for the Jews had, since the 11th century, been a long series of indignities and brutalities, culminating in wholesale massacres and expulsions.

Open season on the Jews of Europe began in earnest with the First Crusade of 1096. Many of the pilgrims seeking to wrest Palestine and the Holy Sepulcher from the Moslems were devoutly religious people, ready to make every sacrifice for the glory of the Cross. Many of the Crusaders, however, were riffraff, outcasts, and criminals, who smelled out opportunities for pillage and plunder.

The Jews who lived in the Rhenish Valley soon felt the presence of the Crusaders. The orgies began in Lorraine, and for years thereafter, wherever the Crusaders went, they left a trail of plundered homes and broken lives. After the First Crusade came the second, and the third, and the fourth, all through the bloody 12th century. Whatever else they signified, the Crusades marked the end of settled Jewish community life in Europe. They ushered in the Jewish caricature who skulked through Europe until the 18th century, the pariah, with bent back, hunted look, and obsequious manner.

The church now stepped in further to point up this degraded status. Pope Innocent III, in 1215, decreed that all Jews were to wear a distinctive garment, or a special badge, to set them apart from other men. The distinguishing mark invited ridicule and insult, and the Jew could no longer walk in the open unmolested; he sought out the byways and the darkness. Other churchmen began to attack Jewish writings, the last citadel of Jewish pride and courage. In 1239, Pope Gregory IX denounced the Talmud as a distortion of the Bible and a blasphemy on God and Jesus. He ordered all copies of the Talmud to be seized and burned, and his example was emulated in every part of Europe.

When the Black Death swept out of Asia in the 14th century, penetrating every hamlet of the Western World and destroying nearly a fourth of the population, the rumor spread that the devilish Jews had caused it all. The Jews, suffering grievously from the plague themselves, since they usually lived in the vilest parts of the towns, were now subjected to the worst outbreaks in their history. The massacres spread

from one end of Europe to the other. Hundreds of communities were destroyed by flame and sword. Already, in 1290, England had expelled its Jews. France followed in 1306; again in 1322 when a few thousand had drifted back; and finally in 1394. Most of the duchies of Germany continued the well-established tradition, first confiscating all Jewish possessions.

Four hundred years had now passed since the nightmare began. Hounded by successions of Crusaders, by the restrictions of the church councils, the hatred of churchmen and Jew-baiters, the Black Death and the libels which it engendered, Jewish life at the opening of the 15th century, was a hopeless, broken thing. There was little left for the Jews but to turn to their Bibles and prayer books, scanning the tear-stained pages for the consolation which the living world denied them.

Yet, in all the desert of horror, there were a few blessed oases. Turkey opened its doors, gladly welcoming refugees from Spain, Portugal, and the duchies of Germany. Soon Constantinople was host to the largest Jewish settlement in Europe. Poland, too, under easy-going princes, extended hospitality to the harried Jews of Germany. Another new center of Jewish life began, as the Jewish population in Poland increased in the years between 1501 and 1648 from 50,000 to 1,500,000. The disunity of medieval Italy made it possible for many thousands of Jewish exiles to settle in the more liberal provinces which did not share the bigotry of the rest of Europe. Late in the 16th century a new refuge opened unexpectedly in the gallant little Dutch republic which, after long travail, had won its independence from Catholic Spain. England, too, joined the narrow roster of hospitable states when Oliver Cromwell, in 1657, consented to Jewish resettlement.

At the threshold of modern history, then, just before the French Revolution, the main Jewish settlements were in Poland, in the far-flung Turkish possessions of Asia, and in southeastern Europe. There were smaller settlements in Italy, Holland, and a few provinces of the old Holy Roman Empire.

The Jews were mainly confined to ghettos, restricted in economic and social life. Existence was precarious even in the lands of modest hospitality. Nowhere did the Jews enjoy the blessings of citizenship. Whatever happiness they found was in their internal social and religious organization. They had a long way to go, even when political emancipation finally came, before they could bridge the gap that would make them full Europeans.

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2. JUDAISM. Historical Monotheism.—

The connection between the fate of the Jews as a people and that of Judaism as a religion and way of life is not necessarily one of direct correlation. Developments favorable to individual Jews have frequently proved detrimental to Jewish group life, and consequently to Judaism. The period of emancipation itself, from the late 18th century on, raised the economic and social status of millions of Jews by removing legal disabilities and special burdens. But this was also attended by the destruction of Jewish self-government and by a partial disintegration of traditional religious and cultural patterns.

For the Jews, as such, their religio-cultural heritage is vital because they have lacked those other basic elements of group life—territory, state, and language. Next to the ties of common descent, it is primarily this heritage that makes Jews Jewish; particularly when they affirm Judaism with their conscious and voluntary allegiance, rather than accepting it as sheer accident of birth. Thus, in the interrelation between Jews and Judaism, the interplay between the social and religious forces appears to be of controlling significance.

The Jewish religion has been from the beginning a historical religion, in permanent contrast to all natural religions. The historical element was so predominant in the religious ideas of the Jewish people that historical, or historico-ethical monotheism may be regarded as their essential contribution to the history of human creeds. History is the dominant sanction for their most fundamental ideas; the concepts of Messianism, the "chosen people," the Covenant with God, and the Torah. God created the world at a certain time; later He created man; still later He selected Israel as his nation of priests, and so forth.

In most Jewish religious institutions, rituals, and doctrines, the historical reinterpretation of old customs is obvious. Judaism believed not only in the golden age of the first days of mankind, but also in the more enduring age of uninterrupted peace finally to be attained through human achievement guided by the will of God. This belief tended to make of the Jewish religion an essentially optimistic creed. For Judaism, the full realization of the great aims of religion will not come through the processes of political victory and conquest, or the vicissitudes of power; but rather through the progression of human achievements and frustrations, both apparent and hidden, guided by the inscrutable will of God. The concept of man's role as a mere instrument of an Almighty Power to achieve the ultimate and decisive victory over nature—this is the core of historical Judaism.

With this outlook, Judaism has sometimes been called a this-worldly religion. This is true insofar as Judaism's central emphasis is upon the

destinies of mankind, and, within mankind, of the Jewish people, in this world. Judaism cared comparatively little about death. Both early and later Judaism, however, continuously emphasized a firm belief in the survival of the group, and in the eternal life of the Jewish people down to, and beyond, the Messianic age. With the emphasis on history went an affirmation of life as it realizes itself through history.

The main stream of Jewish law sanctified daily pursuits performed in the spirit of service to the family or nation. This gospel is far from the acceptance of things as they are. On the contrary, in the great conflict between history and nature, man is gradually to overcome nature. Jewish law often demands this struggle of man against both external nature and undisciplined human nature. Out of this struggle humanity emerges. Thus, morality becomes man's chief means of realizing the aims of history. In this sense the historical monotheism of Judaism is also ethical monotheism, but only in this sense. A monotheism that is primarily ethical would appeal to the individual on the basis of his own ethical good; whereas Judaism stresses the general aims of the Jewish people (and, in a way, of mankind) to be realized in some unknown future by unknown miraculous means. This failure to relate the moral life of the individual to the ultimate and unknowable goal is intelligible only from the viewpoint of a historical monotheism. To this day, orthodox Jewish ethics has remained in its essence national rather than individual.

Here lies the root of the law's supreme power over the individual. Its great aims transcend the individual. It has underlying motives which may remain hidden to him. The individual may, like Maimonides and others, try to rationalize the law, but must not change it in the least. True, there were not lacking in Jewish history men who dared to question the very foundations of the system, but the main current proceeded unperturbed in the bed carved out for it by history.

This spiritual servitude, however, was never intended to be a forcible subjection. Compliance with the law was a matter of spontaneous, indeed, enthusiastic affirmation. The affirmative "fear of the Lord," one of the cornerstones of Old Testament piety, found its highest expression not merely in repentance, but in the sinner's complete, voluntary return, in his unequivocal retracing of his steps toward a reunion with God. Voluntary moral conduct in accordance with the divine law, as an act of self-assertion, is combined with wholehearted self-resignation as an instrument of God's will. This is the essence of ancient Jewish ethics.

Concept of the Nation.—We can now understand the deeper meaning of the concept of a "chosen people" in Israel's religion. Not only is the nation the chief vehicle of history itself, but for this conquest of nature by history a selected group of men is indispensable. If these chosen few retain their individual life independent of one another, then religion remains an individual, not a group phenomenon. This would prevent it from ever becoming the religion of mankind, the largest of groups.

A group religion, therefore, needs a selected body of men; this is the core of the idea of a "chosen people." Hence, this insistence upon a nation chosen for the special purpose of living the

hard life of an exemplar. In this sense the Jews had to be Jews "contrary to all men" to quote Paul (1 Thess. 2:15). At the same time, they were being Jews, for all men.

The nation overshadowed the individual in other respects as well. What really matters in the Jewish religion is not the immortality of the individual Jew but of the Jewish people. Even when later Judaism adopted the belief in the immortality of the soul and the resurrection, the central point remained the eternal life of the nation; hence, the extraordinary attachment to life manifested by orthodox Jews. Life on earth, the care of the sick and the poor, the duty of marriage and increase in family are stressed, so that the race and the people may be maintained. Because this religion was detached from nature, it had to be divorced from every kind of concreteness; from imagery which tends to focus worship in a certain place or glorifies the local sanctuary or territory. According to tradition, the Jewish religion existed for a time with no sanctuary at all; then, in the days of Moses and the judges, with a migrating sanctuary; until, after centuries, the Jewish kings built the central Temple in Jerusalem.

The Temple was supreme in Jewish life only for a brief period. All the sanctuaries found a substitute, even more detached from any particular locality, in the synagogue which could be erected wherever Jews happened to live. It was in the synagogue that Judaism finally evolved that form of religious gathering most in accord with its own spirit. The synagogue is an institution of the deepest significance in the history of religious worship; together with its daughters, the church and the mosque, it has been among the most important vehicles of history's progress against nature.

The peculiar history of the Jewish people corresponds to their particular position within the framework of the Jewish religion. Jewish history presents a remarkable interplay between the history of one nation and that of many. Under the same circumstances many peoples would doubtlessly have perished. That the Jews survived is largely due to the fact that they were prepared for their subsequent destinies by their own early history. For a very short time the Jews had a state or states of their own. Gradually the nation emancipated itself from state and territory. As the Jewish religion developed away from any particular locality, the Jewish people also detached themselves more and more from the soil. Common descent and common destiny and culture, including religion, became the uniting forces.

This development away from the soil has often been attended by tragedy. After 15 and more centuries of sojourn in a country, the Jews can be regarded as strangers to its soil, even by peoples who settled there long after them. The Jews several times succeeded in creating their own territory. This was done in Canaan and in the new self-governing state after the Babylonian Exile. During the two millennia of the Diaspora, the quasi-political aspirations of the people never ceased to be a living force. The very failures of all the Messianic movements were nothing but the continuous reaffirmations of that yearning for the return to the soil. In the 20th century, the Jewish people were engaged in the great venture of reconstructing a national home in Palestine.

In the long history of the Diaspora, this half-conscious wish of the people to become again rooted in a territory and state found repeated expression in substitutes for both territory and state. Throughout the ages the Jewish community partly replaced the missing state, whether in Jewish quarters in ancient Alexandria, or under the caliphate in North Africa, or in medieval and modern Europe. This persistence in living as Jews has often amazed and antagonized non-Jews. Jews have often been advised to give up their stubborn resistance to the "normal" ways of life, mingle with the nations, and thus simplify a perplexing situation. Indeed, in almost every generation, Jewish individuals and minor groups have become assimilated. Apart from the powerful non-Jewish opposition to assimilation, however, a simultaneous mass conversion of the Jews, even if feasible, would lead clearly to the immediate formation of a group continuing to live the segregated "unnatural" life of present-day Jewry, without the common religious heritage.

The life of the Jews has also led to their characteristic polarity in action and thought. The necessity, through two millennia, of cultivating at least two languages, one for daily routine and synagogue prayer, and one for business correspondence and literary pursuits, demonstrated to every Jewish youth the abnormality of his national existence. An additional factor was the gradual elimination of the Jews from the soil of medieval Europe and their forced concentration within the rising commercial activities of the Western World.

The greater the discrepancy between theory and reality, the more tragic became the inner conflicts in the Jewish personality. The steady equanimity and cheerfulness of the ghetto days (hidden to the uninitiated behind a drab and gloomy appearance), vanished in the modern period. Gone, for the most part, was the enthusiastic belief of the Enlightenment that the pursuit of happiness would proceed untrammelled if only a few political obstacles were removed. As a Jew and as a European, the emancipated Jew suffered doubly from the shattering of his hopes. Messianic expectations, attached to the new era of freedom and equality in the early period of the emancipation, had to be toned down in the face of ever-new complications. The tiny but solid bridge of the ghetto having broken down, a chasm between Jewry's exalted mission and sordid reality opened, abysmal and terrifying. Some Jews lost their balance, but many, steeped in their cultural and ethnic heritage, searched for new paths on which to continue their history's march.

For *bibliography*, see end of the Section 7.

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3. ORIGINS OF ISRAEL. Primitives in an Advanced Civilization.—The period of Israel's origins may be divided into three successive phases: the period of the patriarchs, dealing with the appearance of the first Hebrew groups in Palestine, some of whom penetrated down into Egypt; the Mosaic period, covering the Exodus from Egypt and the migration through the desert under Moses; and the period of the final conquest of Canaan and settlement under the judges. This period of origins covered at least the whole

second half of the second millennium B.C. In it, we first learn of Israel, not emerging from any primitive environment, but as nomadic and semi-nomadic tribes, drifting gradually into already civilized countries. Most of these tribes belonged to the Hebrew group of the Semites, the Habiru. Transplanted into this advanced milieu, they burgeoned into a civilized nation much more rapidly than would have been the case had they relied solely on their inner growth.

Before their arrival in Palestine, some of these Habiru had apparently established a connection with the mature civilization of Babylonia. Others had been under the domination of Egypt for a long while. Even before the arrival of these Hebrews, Palestine itself had been the battleground of many races and ideas. Babylonian, Egyptian, and Hittite influences had been, and continued to be, powerful. The development of ancient Phoenicia, an extension of ancient Canaan, brought the country into contact with a colonial empire reaching through the whole Mediterranean region.

The Exodus from Egypt, the most momentous of the early events, was part of a great commotion among the peoples of the Near East. Shortly thereafter the appearance of the Philistines on the west coast of Palestine diverted the energies of the Canaanite population. This created a temporary condition favorable to the expansion of the Hebrews along the eastern and southern frontiers. Whatever chronology we adopt, and whatever historical truth we ascribe to the earlier legends of the patriarchs, the Exodus, and the settlement, one thing appears certain: Between the period of assaults on the Canaanite city-states and the final conquest during the period of the judges, many centuries elapsed. During this epoch some of the nomads settled and learned more advanced ways of life from the local population, while others lingered on the border as seminomadic cattle raisers.

Ethnic Unity.—Israel's nation and creed were born during these turbulent centuries. How these diverse tribes from different parts of the country, settling at different periods, were able to retain a memory of their unity and continue to feel themselves members of one nation, remains one of history's great enigmas. Not even the fact of foreign pressure fully explains how they were finally united under a single monarch. It is, moreover, not known that the successors of Moses encountered any serious difficulty in convincing the tribes which had been in Palestine before them that Yahweh, the God brought by the newcomers, was the very God worshipped by their own ancestors.

In the end, all Israel came to believe that it had participated in the Exodus. One reason for this remarkable sense of solidarity may be found in the general political situation. Their hold on captured settlements being rather precarious, the first Hebrew tribes welcomed the assistance of brotherly frontier tribes, while the newcomers readily conciliated the settled members of their own stock in order more successfully to attack other tribes. In any case, in this formative period the Israelites who had remained in Palestine were outnumbered by the "seven" Canaanite peoples. The tribes that had gone to Egypt had obviously been a scant minority in the midst of the powerful Egyptian nation. Nevertheless, after migrating through the desert, these tribes retained the memory of their previous dwelling in

Palestine and of their ancestral relation with the Palestinian Hebrews, whom they were now to join.

Here we already encounter the special genius of Israel's religion, the bent it received for all future time. Neither the territory of Palestine, nor the desert, nor Egypt was regarded as significant. What was important to these tribes was their memory of unity, their consciousness of a common history apart from that of other peoples. To this group of migrating tribes, loosely organized by a sense of relationship, and a sense of a common past and a common destiny, Moses had to submit the early formulation of Israel's religion. The Hebrew tribes, however, were not entirely unprepared for such an experience. They had been anything but typical Bedouins, even during their desert migrations. However alien and oppressed in Egypt, they had led a "civilized" life. During their lengthy sojourn in a fertile oasis, they lived more as an agricultural community than as wandering herdsmen. Thus evolved the imposing religious concept which, transcending the needs of migrating herdsmen and future farmers and townsmen, affirmed the eternal behind the transitory, the essential beyond the accidental.

Nevertheless, to regard the Mosaic conception of God as a radical break with the previous tribal religious history of the Hebrews would be an error. Moses built upon ethnic principles of the clan society. God himself was, in a sense, related to the Hebrew clan or clans as a kind of god-parent. Moses built upon this relation of God to the people as a whole. Of course, Moses conceived this parenthood in the moral sense only. In a patriarchal society, God's parenthood appeared more and more in the light of fatherhood. Moses had before him the example of the patriarchs in the worship of a single God. The early Semites had the idea of one original "maker" of all things, one supreme "El." Though this primitive monotheism was far removed from the advanced monotheism of Moses and the prophets, it may well have served as a starting point from which, under favorable circumstances, a much higher form could and did develop.

The Mosaic Conception of God.—The God of Moses was anything but a morally indifferent natural entity. The chief task facing the Hebrews was immediate action—motion forward, struggle, the storming of Canaan. God, as one might expect, became a God of action, a God who had led His people out of Egypt, guiding them to safety through the desert to the ultimate conquest of the promised land. That this Hebrew God was not divided up into many functional deities, that He remained a single God, was due to the combined influences of a weighty tradition, of the singular needs of the day, and of Moses' creative personality.

In Moses' time, the supreme God of the patriarchs had become an urgent necessity for the unification of all tribes. Conscious of the demands of tradition and the hour, Moses had also a vision of the future. He linked God in an inseparable way with the fate of Israel in history. His is not only the God who created the world and who continuously supports life, but one who realizes Himself in past, present, and future through the process of history, the history of this world and of man's place in it. Israel, in this conception, occupies the central position within mankind.

In contrast to the Babylonian mythology, the creation of the world and the development of man play a smaller part in early Biblical narratives than do subsequent human destinies. This general history of man serves as a background for a still more significant history of Israel. Thus, through the effort of Moses, the creation was displaced by the Exodus as the leitmotif of all ancient Hebrew literature and theology. Such a God, related to human life past and present, must be affiliated with man. He can and should be worshiped. Whatever man does, concerns God; consequently, moral behavior is essential.

Additional sanction was given the relationship between this God and the people of Israel by the idea of the Covenant—a covenant with a God, the terms read, who of His free will and for His own purposes had miraculously redeemed them from Egypt, and who would now expect complete loyalty. To serve other gods became a grave offense against the Covenant. The desertion of one god for another had never before been a religious crime. The Covenant thus made the first appeal for whole hearted devotion, for relentless sacrifice of life to religious conviction. It was the first urge to religious martyrdom in history.

Plastic representation of this God was taboo; too definite concreteness might tend to localize the deity. Later, not even the combined efforts of the kings and priests in Jerusalem to associate the divine presence with the Temple on Zion succeeded, until the destruction of the Temple itself. Israel's God was dissociated from Israel's soil. Thus Moses, by personal experiences and still more by his people's experiences, was led to formulate his historical monotheism, centering chiefly on Israel. Subsequent vicissitudes of the people induced other men, whose personal equipment was equally rich, to restate that historical monotheism with a much greater emphasis on its universal aspect.

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4. KINGS AND PROPHETS. The establishment of a monarchy in ancient Israel followed a national catastrophe and was part of a great national revival in which the Israelites submerged their tribal differences for the sake of the common cause. Under the pressure of enemies, and led by such men as Samuel, Saul, and David, they merged into a united nation profoundly conscious of its ethnic-religious oneness. Yahwism had remained a vital social force despite its corruptions; and its priests and seers could still supply the needed leadership. There followed the development of a uniform monarchy constantly growing in power, territorially and internally.

The monarchy started in the 11th century B.C. as a peaceful autocracy with all the corresponding drawbacks; particularly, burdening taxes and compulsory labor. For a time it seemed that Israel might fall in line with the general practices of the ancient Orient, becoming eventually an imperialistic, ambitious, worldly nation. Such a state of affairs could not fail to affect religious life. Traditional Mosaic religion was threatened by a high tide of political power and economic prosperity. State interests now appeared to transcend all others. Even David's selection of

Jerusalem as the royal capital was entirely a political move to counteract centrifugal tribal tendencies. The building of a temple as the central national sanctuary would logically have followed, but David realized that to associate divine worship permanently with a particular place was to abandon Mosaic tradition.

However, by the time Solomon came to the throne in 973, monarchy and state had become strong enough to silence all opposition. The Temple was built in Jerusalem; the territorial principle had won. The Temple, however, never exerted such influence on national history as after its destruction, when it had become merely a memory and an ideal.

After Solomon's death, great changes occurred. For centuries thereafter Israel had a hard, uphill fight for independence. From the middle of the 8th century B.C., Israel and Judah, irresistibly drawn into a whirlpool of western Asiatic affairs, were impotent to direct their own destiny. Concurrently with a general economic decline, there went on a steady process of social differentiation. Some of the rich grew richer at the expense of their fellows. Each catastrophic, national and international, directly affected the peasant. Foreign invasions, earthquakes, alternating droughts and floods, or, worst of all, agricultural plagues such as the locust, repeatedly destroyed the accumulated fruits of years of labor. The poor farmer sooner or later lost his land, and a small group of rich landowners accumulated large estates.

Isaiah's passionate exclamation, "Woe unto them that join house to house, that lay field to field, till there be no room and ye be made to dwell alone in the midst of the land," shows how clearly intellectual leaders saw the system's inherent dangers. The force of tradition helped to increase social unrest, since there lingered on a realization that in the period of the conquest the country had been divided into equal family shares. Land had never been a simple commodity in Israel. Money, although not yet in coined form, became a dominant factor. Economically exhausted, the country must have suffered a severe capital shortage.

The poorer peasants were often permanently ruined by their debts. Israelitic law gave the creditors the right to exact payment in the form of prolonged involuntary servitude, after which many debtors could only join the increasing mass of landless workers. Nor were the conditions of industry and commerce good. Moreover, the partial urbanization of both the Israelitic and Judean population intensified deep social antagonisms. The political conflicts arising from the clash of interests and traditions added to the social instability.

In ordinary years there was no direct democracy; the people were represented by "elders," for the most part members of the leading families. This autocracy of elders was itself split into groups. The royal power was insufficient to maintain an equilibrium among all these forces and the powers of the state were much too poorly defined. Might often replaced right. In legal theory there were no class distinctions in Israel, no special privileges; in fact, however, the exercise of rights in the lower strata was often curtailed by the superior power of the upper classes.

Religion and Law.—This abnormal social situation inevitably found its religious correlative:

for in ancient Israel, national and religious life were closely interwoven. Kings and great landowners wanted to adapt religion to changing social and political needs, even to the point of surrendering some of the fundamentals of the traditional faith. Other groups appeared as the national guardians of the Mosaic tradition; while there also emerged various independent movements directed against the established order. From among those who most fervently sought solution of these ills now arose the free religious preachers, the new *nebiim*. It was no accident that a few of them reached pinnacles of religious thought as lofty as any known to men.

Through the efforts of the prophets, Yahwism took deeper root, and in the course of time everyone declared himself a worshiper of the one God of Israel. Practically all the kings of Israel and Judah had a deep reverence for the *nebiim*, even when these men of God bore ill tidings. The Mosaic law gradually developed, nourished by the vital common law which had grown up in Palestine during two millennia. It was influenced also by common Oriental—especially Babylonian—legal concepts and mores, and by the highly complex social situation. Mosaic law became a large collection of representative cases from which judges could draw analogies and deduce specific conclusions.

The administration of justice lay mostly in the hands of the local elders, the lay representatives of the people; but their voice was certainly not that of the king or the higher judges in Jerusalem or Samaria. Through their findings they steadily added to the mass of legal precedents. Law never came to be a purely secular matter, for ritualistic laws were an integral part of the legal structure. A relatively large educated class, backed by the dissatisfied masses, did not hesitate to criticize the overemphasis upon the fulfillment of the ritualistic commandments. The masses and their prophet-leaders wished to see the law expanded to mitigate prevalent social evils. Under their combined influence there arose that unique system of laws incorporated in Deuteronomy.

Jerusalem became more and more the center of all Judean public life and lent increasing pre-eminence to the Temple of Solomon. Necessarily, conflict developed between this central sanctuary and the many local holy places. The more the popular religion of ancient Israel gave way to the monotheism of the prophets, the easier it became to argue that one God must be worshiped only in this one place.

Prophecy and Social Revolution.—Out of this social unrest emerged revolutionary leaders whose denunciation of the existing order has left a strong imprint upon the career of mankind. Some of them belonged to the oppressed classes; others, like Isaiah and Zephaniah, were of the aristocracy or, like Jeremiah, belonged to a financially independent family of provincial priests. All castigated "false" and venial prophets.

Before sympathetic mass audiences on the streets and in the temples, the prophets cried out against social wrongs, the oppression of the poor, the exploitation of free labor, the expropriation of small landholders, and the political, administrative, and judicial system which sanctioned these crimes. They gradually began to write down their preachments, "the earliest known pamphlet literature of immediate political actuality," to use Weber's phrasing. These preachers

regarded themselves primarily as religious teachers rather than social reformers. Their view was that social life is part of religious life, that social crimes became religious sins. The lamentable social situation must be an abomination to God: therefore the Israelites shall not resign themselves to existing economic conditions but shall raise the banner of justice. All members of the "chosen nation" are parties on an equal basis to the Covenant concluded with God.

Social justice came to be regarded as one of the basic essentials of the religion of Israel. For the first time the validity of the Covenant was seen to be conditional. Since the existing order clearly involved a breach of the contract on Israel's part, God's wrath must be aroused. He must wish to punish His recreant people; if necessary, through the instrumentality of a foreign enemy. Punishment always appeared to the prophets to be impending, and finally they saw it come in a succession of national catastrophes which included military defeat, exile, and dispersion.

Nationality Religion, and State.—Following these disasters, a wholly new conception of nationality arose. Nationality became separate from state. No longer was settlement on the soil of Palestine, or life under a Jewish government, essential to Judaism. Even in the dispersion, far from their own country and under a foreign monarch, Jews remained Jews ethnically.

Of course, this dismemberment of the Jewish nation was regarded as an anomaly, and the exiles hoped it would be temporary. But rational hopes of return must have appeared foolish in view of the world situation. The belief spread that no military conquest, no ordinary victory can avail; it is by a miracle that God will open a new age, an age of eternal peace between man and man, and even in nature; an age in which the Jewish people will again be gathered to the Holy Land.

Thus was proclaimed a religious concept destined to have great influence on succeeding generations. As long as they continue to worship God in their hearts, Jews are Jews, though detached from the soil and unable to worship in a temple. Their God is also the God of each country where they happen to live. Israel's defeat itself proves the power rather than the impotence of Israel's God as the God of all mankind. Israel is still the "chosen nation"; chosen, however, not for the imperialistic aim of glory through political conquest, but for the inscrutable reasons of history.

The singular synthesis of universalism and nationalism in the prophetic religion involves no inner contradiction. The prophets saw states disappear. They saw state power in Israel and Judah used by dominant classes as a means of oppressing the masses. They saw myriads of Jews remaining Jews in foreign lands. They drew the conclusion that there is a unity more indefeasible than that of state or territory.

They had also seen in their own country, and in the successive empires over them, many different ethnic groups living together in comparative peace, retaining their respective identities for a long time. It was natural then to assume that, with the final disappearance of all states and the establishment of universal peace, there would prevail the same conditions, in the ethnic sense, on a much larger scale. Such a reconciliation could take place all the more easily after the

miraculous advent of the Messiah foretold by the prophets. The Messianic hope thus became a cornerstone of prophecy. Some prophets never referred to the end of days; it is the glorification of bygone days which fills their writings. Thus, the glorified past, plus the prospect of an exalted future, was to serve as a psychological buoy for a drowning people who refused to die. All conflicts will find their final solution. Under the direct rule of one God revered by all mankind, there will take place a complete reconciliation of all social classes, of the urban, rural, and nomadic populations, of the Jewish nationality and its state, of the Jews and all other nations.

Thus, in days of great suffering and, in a profound sense, out of them, was born the idea of a Jewish people beyond state and territory, a divine instrument in man's overcoming of nature through a supernatural process in the course of history.

For bibliography, see end of Section 7.

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5. EXPANSION OF JUDAISM. The Crucial Test.—The destruction of the first Temple and the loss of national independence in 586 B.C. provided the first decisive test of the vitality of these ideas of a Jewish people beyond state and territory. Would the Jews remain Jews even in exile? Could a nationality exist without state or territory? Could Jewish religion preserve its distinctive feature, that subtle amalgam of universalism and nationalism? The unusual developments of the next century or two gave the answers to these questions.

The deportations, life during the Exile, the partial restorations under Zerubbabel and Ezra-Nehemiah, and the change in the status of the Jews under Persia, both within and outside of Palestine, created unprecedented situations. Again there arose able leaders, such as Ezekiel and Deutero-Isaiah, to make a new intellectual advance in explaining new perplexities. In Babylonia proper, the danger of assimilation and complete extinction of the Jewish nationality was sharper than elsewhere in the dispersion. None the less, Jewish survival owes itself, paradoxically enough, not to those who remained at home but to the nationalistic vitality of those living so precariously in exile.

Taken as a whole, the people may be said to have stood well the test of survival. The religion of the prophets had become a tremendous social force, and, coupled with a living ethnic organism, not only influenced Jewish society in its turn, but in fact saved it from threatened extinction. In order to achieve this end it had to stress certain elements with a vehemence previously unknown.

The Jewish minority groups in Babylonia, and apparently also in Egypt, recovered from the shock of the loss of national independence and the miseries of deportation with amazing rapidity. While adjusting themselves to the new environments, often achieving wealth and influence, they retained their national and religious identity. New leaders arose. Instead of denouncing a social structure no longer their own, instead of preaching comfort to a people most of whom no longer were suffering individual distress, they evolved a whole new system of law and theology. A transcendent and holy God, they taught, had

selected the people of Israel as His holy nation, for reasons known only to Him. Through a life of holiness and, if necessary, of great suffering, this people will continue to make known the name of God until the end of days, when all nations shall recognize their error and worship this one God. In the meantime, Israel must keep aloof from these other nations, in order not to be contaminated by their errors and their unholy life. The life thus demanded is necessarily artificial and contrary to nature in many ways. Therefore, the Jew has to live, if necessary, in defiance of nature.

When Babylonian Jewry, through Zerubbabel, Ezra, and Nehemiah, accomplished the feat of founding the little theocratic state in Palestine, it builded better than it knew. In this way alone, it saved itself, as well as Jewry at large, from threatened extinction. Egypt with its heterogeneous Jewish groups, those Palestinians who had held fast to the resuscitated popular religion, and even Babylonian Jewry, long the most steadfast, could hardly have survived in separation from one another. The far-flung settlements in other lands were even more exposed to disintegrating forces. Palestine, however, by becoming the recognized center for all Jewish communities, profoundly altered the situation.

Geographical Expansion and Proselytism.

—The settlement in Palestine, from Zerubbabel down to the first Maccabees, had been restricted to some 1,200 square miles in the environs of Jerusalem. These boundaries were extended during the first century of the Maccabean reign, to include practically all of Palestine and Transjordan. The pressure of desert Arabs and the first Roman invaders under Pompey ended Jewish domination of many districts along the coast and east of the Jordan. Nevertheless, rapid progress was made in the process of assimilating the varied elements in those territories which remained Jewish.

The considerable kingdom over which Herod reigned had a vast Jewish majority. The principal cities along the coast and in Transjordan, however, remained more or less self-governing Hellenistic municipalities. The country as a whole was, by that time, thoroughly Judaized. The province of Galilee was fully Jewish in the first half of the 1st century. Palestine, before the destruction of the Temple, had a population of about 2,500,000, including about 300,000 Greeks and Samaritans. A similar expansion took place in the countries of the dispersion. The Jewish settlements of Babylonia and Egypt continued to grow from generation to generation. Syria was densely populated by Jews. Many reached the Hellenized coastal cities of Asia Minor.

Apart from these four largest centers of Diaspora Jewry, masses of Jews lived in Cyrenaica, the European Balkans, and on the islands of the eastern Mediterranean. Jewish settlements of the 1st century extended from Italy to Carthage in the west, and Mesopotamia and Babylonia in the east; from upper Egypt in the south, to Crimea and the Sea of Azov in the north. There were other settlements in Armenia, Persia, Arabia, Abyssinia, Mauretania-Morocco, Spain, and possibly in France. In the concentrated Jewish settlement extending from Persia to Rome and from upper Egypt to the Black Sea, the number of Jews must have been conspicuously large. In all probability Syria, Egypt, Babylonia, and Asia Minor each harbored a Jewish population of

1,000,000 or more. A figure of 6,944,000 for the total Jewish population under Roman rule is not impossible, nor even improbable. On this basis we must assume that over 4,000,000 Jews lived within the boundaries of the Roman Empire outside of Palestine. There must have been at least 1,000,000 more in Babylonia and other countries of the dispersion not subject to Roman rule. A Jewish world population of some 8,000,000 is fully within the range of probability.

Diaspora Jewry in the 1st century far outnumbered that of all Palestine. It is possible that the Jews of Alexandria accounted for 200,000 out of a total population of 500,000—a larger Jewish community than in Jerusalem itself. Every tenth Roman was a Jew, and the empire east of Italy consisted almost 20 per cent of Jews, which meant that every fifth "Hellenistic" inhabitant of the eastern Mediterranean world was a Jew.

The reasons for this unusual phenomenon were the natural increase of a highly prolific race and gains through proselytism; while losses through apostasy remained comparatively slight. The complex forces operating to bring about a steady distribution of the Jewish masses were the expatriation of numerous captives; the forced deportations of entire groups; voluntary emigration from congested areas in Palestine; and the existing system of splendid roads and maritime communications.

Although there were no professional missionaries, uninterrupted religious propaganda seems to have gone on throughout the dispersion. The extensive travels of Jewish merchants, which were a steadily increasing factor in international commerce, helped familiarize distant peoples with the main tenets of Judaism. Barriers formerly separating many peoples had been torn down by the spread of Hellenism, which had corroded all traditional beliefs and modes of life. For a while the expansive force of Hellenism operated effectively in the religious field, but soon the Orient reasserted itself in creedal and ritual elements. Thus began an era of one of the most remarkable fusions of religious beliefs in history.

Judaism appealed strongly to a generation whose craving for the supernatural was coupled with the desire for a rational understanding of life and a satisfactory system of moral rules. What Judaism brought to a religiously-minded Hellenist, says Wilhelm Bousset, "was faith and revealed truth, a certainty without the eternal contradictions and the personal doubts of schools, it was religion. At the same time it was an impregnable community, much more vigorous than the fluctuating conventicles of the philosophic schools and at least just as important and powerful as the other greatly revered Oriental mystery religions."

Economic and social forces added momentum to purely religious propaganda. The far-flung Diaspora with its complex contacts, the solidarity of the Jewish people, the protection extended by its communal organization, the support of its charitable institutions—all these contributed to counterbalance whatever minor disabilities were then connected with being a Jew. Poverty-stricken masses were frequently better off as Jews, enjoying the benefits of both municipal and Jewish relief. The practical application of the religious duty of loving-kindness and almsgiving, coupled with the generally democratic trends within Pharisaic Judaism, doubtlessly enhanced

the effectiveness of the Jewish mission within the urban proletariat. Even wealthy merchants might find it profitable to join a widespread creed which offered them brotherly reception wherever a community of their coreligionists existed.

Hellenistic Jewish literature soon became the most effective vehicle of propaganda. The Hellenistic apologists of Judaism refrained from a direct attack on specific gods or customs. They preferred to speak generally of the weakness of idolatry and heathen mores, while dwelling at length on the superiority of Judaism. The finest specimen of that literature is Josephus' *Against Apion*. Reciprocally, the Jewish religion was deeply affected by these developments. Palestinian leaders, then and later, differed widely in their attitude toward proselytism. Divergences between the social philosophy of the Sadducees and Pharisees deeply affected their respective positions as to the principles and methods of religious propaganda. The proselyte was expected to divest himself of all former racial and ethnic characteristics and gradually to become ethnically a Jew. Philo described the proselytes as "men who have left their country, and their friends and their relations for the sake of virtue and holiness." A proselyte was not, however, regarded socially as a full-fledged Jew before the second or third generation.

The Palestinian Center.—Though the Jews in the Diaspora outnumbered those in the homeland, Palestine remained the focus of all Jewish life as such. Even in the period before the Maccabees, the self-governing theocracy of Jerusalem had begun to reinterpret the whole system of Jewish religion. This was essential to its application to life in the Diaspora.

It was primarily Palestinian Jewry, both in its gain and loss of national independence, which made Jewish history. The Temple of Jerusalem was regarded by all Jews as the "navel" of their world, and regular pilgrimages were made to it from all countries. The Passover holiday, by virtue of its national significance, attracted the vast majority of pilgrims. A unifying bond of equal importance was the annual half-shekel paid by every Jew as a temple tax. This was collected by local Jewish authorities throughout the world and sent to Palestine.

The political position of Palestine in the Mediterranean world was enhanced by her "colonies." On the other hand, the Diaspora was indebted to Palestine for extensive moral and political backing. Economic and political interrelations between Palestine and the Diaspora Jews, however, were overshadowed by the religious and cultural influences exerted by the Holy City upon all Jewish life, both in and outside Palestine. In the last two centuries of the Temple's existence the religious leadership of Jerusalem was unchallenged. Palestinian authority in matters of calendar and festivals (including the newly introduced feasts of Purim and Hanukkah) was uncontested. The Scriptures were adopted by Diaspora Jewry at the dictation of Palestine; books composed in the motherland were speedily canonized and translated. Jewish communities abroad frequently addressed legal inquiries to Palestinian authorities.

Pharisaism spread beyond the confines of geographic boundaries. Hillel of Babylonia, Nahum of Media, Saul of Tarsus, all felt its impact. Hillel became the principal leader of the movement, Nahum one of its representatives at a cru-

cial historical moment, and Saul its greatest enemy. For Palestine Jewry the Diaspora always remained the galut, the exile. Thus, for a time, world Jewry, unconscious of danger, smoothly followed the lead of the Palestinian group.

Jewish Theocracy.—Josephus had to create a new word to describe the Jewish form of government—theocracy. At first it was a theocracy on a democratic basis, then it became a monarchical theocracy. Finally, under the domination of Rome, its monarchical, aristocratic, and democratic constituents clashed. The rapid conquest of the various provinces by the early Maccabean rulers had affected the social status of their population. Galilee, the most fertile region in the country, was the scene of sharp social conflicts. The Judean aristocracy, partly dominating the country from Jerusalem, looked with contempt on the masses converted to Judaism only a short while before. These conflicts were accentuated by the fact that many important towns which had been in the hands of the Greeks after Pompey's invasion, regained municipal self-government under the direct sovereignty of Rome. In these cities, though situated on Palestinian soil, the Jews lived only on sufferance.

The Pharisaic scribes, the main exponents of the national-religious ideology, thus faced a situation much changed since the days of the prophets. Territorially unattached, wherever they happened to be they could teach and adjudicate matters in the name of the Torah. Also they succeeded in maintaining financial independence by refusing to accept monetary reward for their teaching and by choosing a trade, often simple manual labor, as a source of livelihood. Unlike the ancient leaders of Israel, however, they could not direct denunciations against the dominant Jewish class. Those most responsible for existing evil conditions could not, since they were foreigners, be accused of breaking their covenant with God.

The Pharisees neither could nor needed to appeal to the people in the name of the great principle of justice. Their opponents and the foreign oppressor alike claimed to agree with them on the transcending importance of this principle. What mattered now were details, cases of concrete application or disregard of the great ethical principles. The scribes could refer to an elaborate and binding set of laws easily applicable to every particular occurrence. Thus, legalistic accusations took the place of inspired denunciation.

Ethnic Pharisaism versus Nationalist Sadduceism.—Conflict developed between the two principal religious sects, the Sadducees and Pharisees. The Sadducees were undoubtedly as patriotic as the Pharisees, but their patriotism was permeated with Hellenism. Belonging, for the most part, to the upper classes of priests and landowners, the Sadducees had undergone a degree of assimilation before the anti-Hellenistic reaction set in. Not until the foreign hand struck at the roots of Judaism and threatened extinction, did they awaken. In the Hellenistic empires, as later in Rome, the state was the paramount life principle; religion and nationality were recognized only in so far as they were instruments of the state. The new vast empires, embracing so many dissimilar ethnic components, emphasized even more strongly the supremacy of state over nationality. The Sadducean leaders unconsciously adopted this principle. They became the leaders

of the anti-Syrian revolt and the subsequent reconstruction. They fought the Syrian state on its own ground, erecting against it the power of the Judean state, to whose glory ethnic purity might readily be sacrificed.

The Pharisees, intellectual leaders of the vast middle class, had been much less affected by Greek influence and refused to abandon that signal achievement of previous Jewish history: the emancipation of nationality from state. To them, this independence of religious and ethnic individuality constituted the very basis of Jewish life. When the new rulers exalted the state above all else, the Pharisees denounced them as enemies of Jerusalem.

As long as the Jewish state remained powerful and expansive, the Sadducees retained their hold over the country. After the conquest of the country by Pompey, they lost power steadily. The Pharisees, however, did not resent foreign domination so long as it did not interfere with their inner ways of life. Consistently they regarded the state as an instrument of evil wherever it subverted or overshadowed the interests of religion and nationality, and in this attitude showed themselves heirs of the prophets.

Out of this contrast between the state-approving Sadducees and the state-denying Pharisees arose sharp conflicts of purely religious convictions. The Sadducees, wealthy, educated, and newly awakened patriots, were inclined to over-emphasize the rigid application of Jewish law. The Pharisees, representing the living ethnic body, could appropriately insist upon the validity of the oral law, a legal evolution of customs and convictions in the national life. To the Sadducees, life appeared confined to a personal existence, lived here and now. The Pharisees, linking individual life with the great processes of history, combined the concept of immortality of the soul with bodily resurrection. The idea of another world gained strength continually. It represented the best solution of the contradictory aspirations of nation and individual.

The wide gap between Sadducees and Pharisees appeared also in their views of existing religious institutions. There was a strong mutual attraction between the state-affirming Sadducees and a priesthood centered in a territorial symbol, the sanctuary. The Pharisees encouraged institutions essentially ethnic in character. They did not reject the Temple, its sacrifices, nor even the priestly class, but they tried to make popular institutions of them. They introduced a popular festival, the water procession. They enlarged on the popular aspects of the Passover sacrifice and the duty of making pilgrimages to Palestine. They declared that the priests were merely the representatives of the people, and they glorified and elaborated the Sabbath.

The idea of the synagogue now took definite shape. The foundations laid during the Exile were enlarged and deepened, and upon them a structure was erected which rivaled and soon replaced the Temple in significance. The other cornerstone became the Torah, in the double meaning of "institution and faith." Thus were planted the seeds of a popular educational system, broader and more effective than any other in the ancient world.

For *bibliography*, see end of Section 7.

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6. WORLD OF THE TALMUD. "In no one region of the vast Roman Empire," says Herman Dessau, "did the population become, after a century of uninterrupted reign of the Caesars, so little reconciled with the Roman domination, as in Judea." The most spectacular event in this dramatic sequence was the war of 66-70 A.D., with its somber finale: the destruction of the Temple in Jerusalem. This was the beginning rather than the end of a long-enduring conflict, and its effects far transcended the loss of a central sanctuary.

The rise of Christianity and its separation from Judaism, as well as the destruction of the second Temple which greatly facilitated this separation, checked the great expansion of the Jewish people. Judaism suffered a sudden reverse just as it seemed to be nearing the goal of its history—the reconciliation of its national and universalist ideologies, through a process of inner and outer growth as an ethno-religious unity beyond the boundaries of state and territory. Within the enormous body of Jews there had arisen many currents, sometimes assuming the pronounced form of sectarian movements, but generally drifting imperceptibly within the main stream. The breakup then had been but a question of time. As long as Palestine was a Jewish country, as long as a third or even less of the people lived its own protected life, the break was delayed. But when new developments in the outside world brought about the suppression of the Jewish state, the disruptive forces were bound to prevail.

When Jerusalem fell, the Palestino-Babylonian nucleus of the Jewish people was so unified and Judaism was so integrated a system of action and belief that the need to make a new start did not involve them in vital transformation. Unlike the first Exile, the new Diaspora necessitated adjustments of detail, but not the remodeling of the whole life of the nation on unforeseen patterns. But instead of constantly putting out new feelers and entering into ever-new combinations with the outside world, Judaism recoiled within itself.

The daughter religion, Christianity, inherited along with the expansiveness of the Judaism of the Second Commonwealth, its increasingly variegated sectarian currents. Talmudic Judaism, on the other hand, soon to be unified and consolidated, eliminated all organized "heresies" from the life of the people for centuries to come. From the standpoint of Diaspora Jewry, the disappearance of the distant sanctuary brought about little change in established modes of life. The events of the year 70 did not mark even a new era on the calendar. Pious Jews in Palestine continued to pay tithes and other dues to the priests just as when the sanctuary was intact. For a while, to be sure, the people could not reconcile themselves to the final loss of national independence. Messianic hopes surged ever higher. The bloody suppression of the Bar Cochaba revolt, however, had a sobering effect. The steady advance of the Christ-cult in the Graeco-Roman world was equally ominous. The rabbis of the succeeding generations, consequently regarded as a duty the mitigation of belief in the immediate appearance of the redeemer.

Beginnings of Medievalism.—By the 2d century, Christian tradition concerning Jesus and the apostles was rewritten in an increasingly anti-Jewish spirit, while Judaism became more

antagonistic to Christianity. Jewish leaders regarded it as their duty to instill in their own people all knowledge necessary for resisting propagandists of other creeds. External and internal forces united to reduce the missionary and to increase the nationalist ingredients in the life and thought of the Jewish people.

This gradual alienation of the Jews from the outside world, and their increasing concentration upon a segregated inner life, were greatly enhanced by general developments both in the Roman and Persian empires. While disparate races and religious groups were increasingly developing into homogeneous nations, the Jews remained more conspicuously than ever outside this movement. On the other hand, the individualism of the Hellenistic and early Roman empires began to give way to a universalist, authoritative social structure, under a despotic government foreshadowing feudalism. Within the semifeudal systems, the Jewish people, clinging to their identity and maintaining their own quasi-democratic communal structure, constituted a unique group.

New economic developments greatly facilitated the process of Jewish consolidation. Uniformity became so general in Jewish economic pursuit that the great masses of Jewry began to be concentrated within a single class. The profound social antagonism which had permeated Jewish society before the fall of Jerusalem had nurtured an intensive revolutionary spirit that bred many new movements. That antagonism had now given place to increasing solidarity.

The cumulative effect of anti-Jewish forces seriously endangered the existence of the whole people (also of the individual Jew, as such), and a common economic front to combat them became necessary. Before the battle for national survival, the internal class struggle receded. Outside of Palestine and Babylonia, the opposition, first of the heathen Greeks and then of the Christians, as well as that of the Persians, put the entire Jewish group on the defensive.

Records of Jewish agriculture become fewer as time goes on. Urban Jewry could effectively resist the accumulated hatred of gentile neighbors, but scattered settlements of Jewish peasantry were more exposed. In this period of outspoken anti-Jewish legislative and administrative policy, the Jews no longer received much protection from the central government. Age-old forces, operating to commercialize the Jews, gained in strength through the intensive migratory movements, through discriminatory legislation, and the growing cohesion of the Jewish communities.

Jewish Decline and Dispersion.—The center of gravity of Jewish life gradually moved from Palestine to Babylonia, where the Jewish population made steady progress economically and culturally. Between the two communities there gradually arose a certain rivalry, but the rise of Babylonia to a leading position could not be checked. With the conclusion of the Mishnah by Judah the Patriarch, an instrument was created whereby the Babylonian study of Jewish law was to win greater independence. For two or three generations, Babylonian students migrated to Palestine to satisfy their thirst for knowledge from the living source of tradition. Gradually, however, the influence of local traditions, many reaching back to the exilic age, became more marked. The anarchy prevailing in the Roman Empire during the second half of the 3d century and

even more, the growing intolerance of the Christian world, decided the struggle in favor of Babylonia. Biological and economic developments also contributed to the decline of Palestine.

As a whole, the Jewish population must have decreased considerably in the six centuries preceding the rise of Islam. The severe losses from wars and from the Christian mission were intensified by the adverse biological and economic factors. At the same time, the geographic basis of the Jewish people was steadily widening. Not only the provinces east of Italy, but the whole Roman Empire was now dotted with Jewish settlements, and there were mass migrations to the Orient. For the first time, Judaism became a "world religion" geographically, while in each particular country it was, more intensely than ever before, the "national religion" of a struggling minority.

Talmudic Institutions.—Marriage and the Family.—The regenerative forces of the Jewish people were greatly enhanced by the institution of Jewish marriage. The whole life of the Jew, including his sexual instincts, was subjected to the rigid supervision of religion. Social factors, such as the increasing concentration of the Jewish masses within the lower middle class, stimulated the exercise of sexual self-control.

Far from condemning, with Paul, the sexual appetites as an evil in itself, the rabbis effectively fought all forms of licentiousness. Marriage for them was a necessary social institution. As the foundation of ethnic life, it was specially vital for Judaism. The Talmudic legislators neither elevated marriage to the position of a sacrament, nor did they regard it as a mere contract in civil law. Rigid morality was demanded in married life. The recognized principle of Talmudic law was that a man might marry as many wives as he could support. As a matter of fact, however, from the days of the first Exile on, records concerning actual polygamous families are exceedingly slight. Numerous prophetic passages presuppose a monogamous society to all intents and purposes, despite the absence of legal enforcement.

Influence of Talmudic Legislation on Jewish Economy.—The rabbis constantly tried to maintain a kind of interclass equilibrium. They did not denounce riches as some early Christians did, but they emphasized the merely relative value of great fortunes. Their persistent accentuation of the Jews' collective economic responsibility made their system of public welfare highly effective.

While there was much poverty among the Jews, the community took more or less adequate care of the needy through its numerous charitable institutions. Apart from charity, the Talmudic sages stressed the value of labor; economic pursuits, as such, were increasingly glorified. With the strengthening of feudal tendencies in the Roman and Persian empires, the social control exercised by the rabbis also increased. Their farsighted policy, based on centuries of experience, was largely dictated by a consciousness of dangers inherent in the people's growing commercialization. Many rabbis viewed with anxiety the abandonment of the ancestral agricultural pursuits in favor of the quicker and easier profits to be realized in commerce. This conservative attitude also found expression in the recurrent advice that a child should be instructed in the father's profession.

The hereditary exercise of a craft, common during the First and Second Commonwealths, was consciously stimulated by rabbinical teachings, as was the formation of artisans guilds for mutual protection and support. From the 3d century on, general tendencies, both in Rome and in Persia, immensely favored this development. Where possible, Jews arranged their own professional guilds, whose medieval character was emphasized by the evolution of customs and trade observances peculiar to each branch of industry and commerce, and fully acknowledged by Talmudic legislation. The rabbis actively participated in regulating business affairs. They adopted incisive enactments concerning commissions and schedules of rates and fares. Under the guidance of the rabbis, the community as a whole arrogated to itself the rights of price regulation and wage mediation between employer and employee.

There went on, reciprocally, a constant adaptation of Talmudic law to changing economic conditions. The economic legislation of the Talmud presents a variegated and rich picture. It is an extraordinary combination of more or less liberal laws, emanating from semicapitalistic Palestine in the 1st century, as well as laws devised to regulate the life of the semif feudal 4th century Jewish society of Palestine and Babylonia. By a process of constant adaptation, contradictory elements were reconciled and integrated in a unique set of legal maxims. Equipped with such a law, the Jewish people could carry on its struggle for existence with success in civilizations of either type. Hence the great influence of the Jew and his law on the caliphate and, after the 11th century, on Europe.

Down to the 18th century, Talmudic law represented a progressive factor, frequently enabling the Jew to perform pioneering services in the various countries of settlement. Only with the development of modern capitalism after the Industrial Revolution, did the more primitive Talmudic patterns become a hindrance to Jews in the metropolitan centers of an industrial civilization. At that time, powerful anti-Talmudic movements tried to liberate the Jewish capitalist and industrial worker from the shackles of this "obsolete" civil law.

Jewish Self-Government.—Whether under Roman or Persian domination, the Jews lived primarily as Jews, and only secondarily as imperial subjects. Despite the increasing administrative centralization in both realms, the basic units—municipalities, districts, and provinces—retained, in general, a large degree of self-government. For the Jews it was a matter of national life or death.

Under the impact of the denunciation of Judaism by the Christian Fathers, the Roman imperial government began to impose restrictions upon Jewish self-government. To check Jewish expansion in hitherto free regions, the Christian emperors prohibited the erection of new synagogues. Rabbinic legislation, however, helped maintain the uncontested sway of the Jewish courts over Jewish litigants. The judicial authority of the exilarch and the heads of the academies was fully acknowledged by the Persian government. Gradually, exilarchic authority shrank, because of the rise of the rabbinate to power rather than because of external influences.

While Babylonian Jewry was ruled by central

authorities, the Jewish community of the Roman Empire underwent a steady process of decentralization. The decline of the Palestinian center was no less responsible for this decentralization than the gradual dissolution of the empire itself into its provincial constituents. To be sure, until 425 A.D., there was a patriarch in Palestine whose authority in legal matters was upheld by the rabbis, even against the Babylonian exilarchs. In practice, however, the individual Jewish community became increasingly independent, controlling the administration of justice, tax collection, and charity. In short, Judaism and Christianity evolved in diametrically opposed directions: Jewish autonomous life became ever more decentralized in favor of the basic unit, the community; Christian communal life tended to develop an increasingly rigid hierarchical system under the supreme authority of the bishop of Rome.

The life of each Jewish community was basically democratic. Everywhere a governing body, evidently elective, seems to have exercised all rights in the name of the whole community. Two other communal institutions penetrated even more deeply into the core of Jewish life: the school and the synagogue.

The System of Talmudic Education.—Long before the Talmudic era, the foundations of an extensive educational system were laid by the Pharisees, who built on antecedents going back to the schools of wisdom and priestly training of ancient Israel. A program of primary and secondary education had been well formulated by the Pharisaic teachers of independent Judea. After the destruction of the Temple, the rabbis intensified their efforts to develop an efficient school system. Problems of pedagogy were widely discussed in the Talmud, and the majority of rabbis gave preference to intensive studies within a limited range.

The Talmudic insistence on adult education was characteristic. As long as he lives, every Jew must set aside for daily study as much time as he can possibly afford. Rabbi Joshua ben Hananiah outlined his well-known curriculum: At five a boy should be taught the Bible, at 10 the oral law, at 15 he should be guided toward his own interpretation of these traditional sources. This threefold division of study should be maintained throughout life. In Palestine and Babylonia, great teachers often delivered public discourses for business men and farmers. The Babylonian rabbis set aside early morning hours for the instruction of those engaged during the day in earning a living. A semiannual gathering enabled men of various walks of life, residing in distant parts of the country, to devote about a month to concentrated study under the experienced guidance of the greatest rabbis of the generation.

To learning, Talmudic Judaism attached unique social recognition. Learning opened the road to the highest prestige in public and private life, and many leading rabbis of the age rose from the lowest strata, winning uncontested leadership in social as well as intellectual life. That "the rabbis are called kings" was almost proverbial. A teacher was frequently addressed as Abba (father); a scholar always had precedence in the synagogue, in social gatherings, and even in court proceedings. In the period of the Talmud, Jewish learning penetrated deeply into the masses in a day when extreme illiter-

acy was widespread in the Mediterranean world.

The Synagogue.—With the elimination of the Temple, the synagogue assumed a position in the Jewish cult more central than it had held even in the Pharisaic age in the Diaspora. A standardized order of prayers was developed, new prayers added, the hours of services fixed, and other details regulated. But even here, public instruction seems to have been the primary concern. Many synagogues were used as elementary schools during most of the day, and divine service itself had as many educational as devotional aspects.

The public reading of portions of the Torah in a triennial or annual cycle, with interpreting sermons, represented intellectual rather than purely cultic exercises. This merging of the house of prayer and the house of learning was emphasized in later generations—a union which increasingly took the place of political forms for the Jewish people. No matter how many scrolls of law were seized or burned, the Jewish congregation continued to worship God in the prescribed fashion. In a word, the synagogue focalized in itself the whole communal life of Jewry, becoming the culminating expression of Jewish autonomy.

Talmudic Law.—Out of this autonomous life of Palestinian and Babylonian Jewry separated from that of the surrounding population by many religious, cultural, social, and even economic peculiarities, evolved the grandiose monument of ancient Judaism, the Talmud. Ranking almost as high as the Bible and claiming to represent, in its essentials, another form of revelation (the oral law), the Talmud influenced the subsequent history of the Jewish people perhaps even more than the Scriptures themselves.

The Talmud is not a book; it is a whole literature, the hoarded intellectual labor of centuries. Reflecting the fullness of life, it necessarily contains as many contradictions as life itself. He who seeks can find in it whatever he wishes. The Talmud has not only been a fecund source of inspiration for Jews through almost two millennia, but it has supplied weapons for enemies as well as for apologists. The logical categories employed by the Talmudic thinkers, their outlook on life, and the conditions of their age, differ from modern conceptions so deeply that much therein must appear incongruous and almost absurd to an outsider. Only one who has spent a lifetime exploring the Talmud, whose mind has been gradually molded to think in Talmudic idioms, is qualified to lift statements from the Talmud with impunity.

The Talmud is primarily law; the legendary (haggadic) part should not be elevated to a position of prominence in the perspective of Talmudic doctrine. The pre-eminence of law had its profound justification. Reacting tacitly to tendencies of Hellenistic Jews, and of Paul in particular, Talmudic Judaism insisted upon the rigid application of traditional law as the paramount national principle. Christianity claimed that the law had been abrogated by the advent of the Messiah, that the Jewish nationality had died to give birth to the new universal religion. All the more did the Jewish people withdraw under "the yoke of the law," whose burden they did not regard as too heavy.

The Jews retained their own customs and observances not alone in religious and cultic matters. The Talmud reveals amazing independence

even in purely secular and economic questions. This independence of Jewish civil law from the dominant legal systems in both empires was enhanced by the complete autonomy of Jewish legislation in such domains as marriage and religious observances in synagogue and at home. Frequently it affected even ordinary civil relations. The essence of Talmudic jurisprudence was that it encompassed the whole of life. It regulated almost every detail of daily routine. Law-consciousness pervaded the performance of such simple functions as eating breakfast. The prescribed washings before and after meals, the numerous benedictions, often amounting to whole prayers, converted each meal into a kind of religious function.

Talmudic law is, however, not dominated by pure ritualism. Much more attention seems to be paid to social and economic than to purely ritualistic theory and practice. Out of a total of 2,920 folio pages in the Babylonian Talmud, almost one half (1,302) belong to two divisions primarily devoted to civil and marriage laws. More than 785 pages are assigned to benedictions and the observance of holidays in synagogue and home. In other words, the laws concerning economic, family, and communal life constitute the bulk of the Babylonian Talmud. This is not merely a statistical coincidence; it is part of the this-worldly orientation of Judaism and its ambitious attempt to link each step in man's life to the infinite.

Since the days of early Christianity, the legalism of the Jewish religion has often been denounced. But whatever the practical abuses, the theory of equality between ritual and moral law was by no means detrimental to the latter. Both were made intrinsic parts of a religious system whose primary concern was human action. Once actions were performed as prescribed, Judaism laid great stress upon the intention behind each action. It preached that "not theoretical belief is what really matters but actual deeds," and even above the spontaneous good deed was placed the deed performed in fulfillment of a commandment. Hence the elevation of the idea of inner repentance to a supreme position in Jewish theology. The Pharisees had insisted upon this moral element, in addition to the actual performance of a rite, as a prerequisite without which no sin against God could be forgiven.

The chief characteristic of Talmudic theology is that, while rich and colorful in its infinite variety of detail, it contributed relatively little to the fundamentals of Judaism. All the essentials had been laid down by the Pharisaic scribes with an astounding finality, and Talmudic Jewry adhered to them with unswerving fidelity. But the unparalleled law-consciousness pervading Jewish life at every step, the Jew's great self-control in matters of sex, his increasingly anomalous economic status, and his abnormal political and segregated social life in autonomous communities, all bred an extreme and dangerous intellectualization of Jewish life. Yet, however artificial and contrary to nature this was, artificiality was the logical expression of the existing social forces. It was also the most effective means of preserving Jews and Judaism.

The intellectual leaders of Jewry saw their main task as the erection of a "fence around the Torah" by minute elaboration of its laws. They saw this also as building a fence around the people of Israel against all storms from

without. Thus, the Talmud became the main expression of a great crisis in the history of Jewish society and religion.

For bibliography, see end of Section 7.

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7. WITHIN THE GHETTO WALLS.

The 13th century was one of great transformations in European life. It witnessed the decisive transfer of the Jewish center from Islam to Christendom. Not the Byzantine Empire but the young and vigorous civilizations of the West now offered the Jewish people opportunity for their characteristic evolution.

Medieval Jewry: Economic and Political Status.—The decline in the status of the Jews during the age of the Crusades was clearly reflected in the constant shrinking of their economic basis. The prominent position they had occupied in international commerce in the days of the caliphate and the Carolingian monarchy was theirs no longer. The alienation of the Jews from the soil proceeded rapidly. The great expulsions put an end to Jewish participation in agricultural endeavors in western and central Europe. The Jews' share in industrial enterprises also declined from century to century during the Middle Ages.

In the earlier Middle Ages, "Jew" had become, even in legal terminology, a synonym for merchant. From the 12th century on, we find it increasingly identified with usurer. Church legislation, laying increasing stress upon the canonical prohibition of usury, fostered Jewish moneylending. As late as the 12th century the clergy had been the most important group of moneylenders in many European countries. Even later, many Christians, with money to lend on interest, evaded the prohibition by subterfuge. But the Jews, being able to engage in this business openly and with legal protection, had the advantage over all competitors. Jewish usury served as a sort of tax-collecting agency for the weak medieval state. Minting and the exchange of money were connected with moneylending. In the early Middle Ages the Jews performed truly pioneering services in this field. When Jews succeeded in accumulating wealth, however, the feudal princes usually appropriated their fortunes.

In ordinary years the taxes paid by Jews far exceeded their ratio in the population; in years of stress, taxation became almost expropriatory. Property taxes, sometimes as high as 33 per cent, were the most common means of speedily extracting large amounts of cash from the Jews. Fines of all kinds were imposed on entire Jewish communities to punish transgressions of a single member, or sometimes without any reason at all. It has been estimated that in the 12th century, English Jewry, constituting one quarter of one per cent of the population, furnished fully eight per cent of the total income of the treasury. Similar conditions prevailed throughout medieval Europe. Under these circumstances, the economic life of the Jews in northern Europe became more and more uniform. They were largely moneylenders, or business, ecclesiastical, or domestic employees of such, or else dependent on charity.

Economic developments helped to shape the political destinies of the people. The more limited their function in society became, the more restricted were their numbers and their rights. The course of political development in western

Christendom reinforced the corporate separation of the Jews. The primitive conquerors of western Germany, France, and England imposed their own legal conceptions upon these former Roman provinces. Foreigners, as such, had no rights whatever, so long as they had no special protection from the local chieftain.

This "law of aliens" had a special effect on the status of Jews in the early Middle Ages. Even later, a survival of that law made the king heir to all estates of foreigners dying in the land, regardless of whether or not they had legal heirs. Only special protection from the king enabled Jews and other aliens to avoid these disabilities. This relationship between the king and the Jews contributed to the development of Jewish "serfdom." In all Christian countries, Jews, though they retained freedom of movement, gradually came to be regarded as serfs of the kings in public law. Revolutionary forces, directed against the existing form of government or individual monarch, often struck at the Jews as the nearest and most defenseless representatives of the ruling power. Social uprisings of the peasantry often engulfed entire Jewish communities. On political as well as economic grounds, the burghers tried either to eliminate the Jews or to wrest control over them from the kings. In western Europe, expulsion furnished the final solution.

Alliance with the state was accepted by the Jewish people with great reluctance. They regarded it as a necessary evil, a castigation inflicted upon them by God, and clung tenaciously to the theoretical sovereignty of their own authorities, tolerating the laws of the various kings only insofar as these did not conflict with the essentials of their own law.

Jews constituted a body apart, not only politically, legally, and economically; they were, in addition, a distinct religious and ethnic group. Their foreignness was obvious in all countries. So strange and mysterious did the life of the Jews appear to the surrounding Christian populations that the most incredible tales and accusations could circulate about them. Behind all popular misapprehensions loomed the conviction that "the Jew has no fixed domicile. . . he is condemned to perpetual wandering." It was in medieval Europe that he became the "Wandering Jew."

Anti-Semitism had existed in one guise or another wherever Jews lived in dispersion; but only in medieval Europe did persecution follow in such quick succession, assume such universal character, or have such lasting effects. Non-tolerance of Jews became, for centuries, a cornerstone in the religious policy of leading European nations.

Many complex forces were operative to bring about acts of intolerance and the mass psychology that went with them. Religious discrepancy was in itself a supreme offense. Economic factors, such as the competitive appetites of the Christian burghers, played a significant role. Sometimes the subjected masses revolted not against the Jews as such, but against special and privileged groups in general, including the Jews.

Interwoven with all the underlying religious and economic conflicts there was another force at work—the growing nationalism of the European countries. This movement affected Jews most vitally. In a state composed of many nationalities, the foreignness of the Jews naturally appeared less objectionable. Examples of early

medieval states of such multiple nationality were: Moslem Spain from the 8th to the 10th centuries, as well as Christian Spain in the 13th; the Carolingian Empire; early Angevin England; Poland; and Turkey. The more ethnically homogeneous these states grew, the less favorable became the position of the Jews. When a state achieved complete homogeneity there usually came the climax: a decree of banishment. The early national states of Spain, France, and Lombardy in the 7th century tolerated the Jews no more than the newly centralized national states of England in 1290, of France in the 14th century, and of Spain and Portugal late in the 15th century. Medieval Italy and Germany, on the other hand, broken up into many sovereign or semisovereign states, presented more variegated pictures of both tolerance and intolerance.

Judeo-Christian Relations.—It would be a mistake, however, to believe that hatred was the constant keynote of Judeo-Christian relations. Compared with the almost incessant wars which ravaged Europe in the late Middle Ages and early modern times, the pogroms—even of those tragic three centuries from 1096 to 1391—were but sporadic outbreaks. Normal relations between Jews and Christians were generally amicable, or, at worst, characterized by mild mutual suspicion. Social, economic, and even intellectual relations were so intimate, particularly in the Mediterranean countries, that, for centuries, church and state tried in vain to check what they regarded as overfriendly intercourse militating against their segregation policy. Wherever Jews lived for a long period, their association with gentiles was such that the local tongue became theirs and was carried by them to other lands when they left. Ladino and Yiddish indicate how far-reaching the intercourse must have been between the Jewish and gentile populations in medieval Spain and Germany.

The internationalism of the Western Church helped to shape the destinies of the medieval Jew. Jews were to be tolerated by the church until all mankind had been converted to Christianity and the Jewish testimony was no longer needed. On the other hand, religious tolerance must not extend to physical maintenance beyond a low level. The Catholic Church had its full share, both in creating the adversities and in making possible the survival of Jewry in Christian lands. In the growing exclusion of the Jews from Christian society, in the increasing legal and economic disabilities, in the ever-deepening animosity and ill will between the two groups, the church's teachings were the most decisive single factor. But the exception in favor of the Jews, established by the church itself, greatly outweighed the influences of segregation. Had it not been for the Catholic Church, the Jews would not have survived the Middle Ages in Christian Europe.

Paradoxically, the anti-Jewish animus of the church became most effective in that domain of European life to which eventually the church itself fell a victim: European nationalism. Nascent Western nationalism succeeded in eliminating the Jews from most European countries. About 1550 there were no Jews lawfully resident in England, France, the Netherlands, Spain, Portugal, the Scandinavian countries, or Muscovy. All Jewry in Christian lands was concentrated in Poland, a country of multiple nationality, and in certain more heterogeneous regions of Germany and Italy. The total number of Jews was rapidly de-

lining to the lowest level in the history of the Diaspora.

This decline was wholly due to conversions, some voluntary, some forcible. Faced by pogroms and expulsions, many Jews joined the dominant religion, while others moved on in search of a new, temporary asylum. Nevertheless, the widespread belief that Jewish life in medieval Europe consisted of an uninterrupted series of migrations and sufferings, of disabilities and degradation, is a misconception. The Middle Ages were neither in themselves the dark ages they were once thought to have been, nor were they as dark for the Jews in comparison with the rest of the population. The real clue to an understanding of the perplexing situation of the Jews is to be found in the physical and spiritual structure of the medieval Jewish community within the larger frame of medieval Christendom.

Structure of the Medieval Jewish Community.—The medieval segregation of Jews produced a compact, self-regulating Jewish community. The life of each Jew was thoroughly governed by Jewish law. His actions were carefully supervised by his fellows, particularly by the leaders of the community. His interests, religious and intellectual, as well as social and economic, were centered in the communal life. Developments in the outside world, therefore, affected him comparatively little. Thus, the Jewish will to survive by clinging to the traditional mode of communal existence, coupled with the medieval corporate organization of society, facilitated the independent inner Jewish development. These two lines of evolution built up together a cultural and political body with all the characteristics of a powerful state within a state.

Territorial segregation in a ghetto was only one element of this largely self-sufficient life. Whether in a technical ghetto—in which all Jews were forced to live, with gentiles excluded—or in a ghetto which was merely a Jewish quarter growing up freely, the separation was complete enough to make Jewish life an independent entity. Many other methods of separation were taken over from the ancient world and from Islam. Badges to distinguish Jews from non-Jews, and separate baths to prevent intimacy, were Byzantine and Moslem heritages improved upon by Western legislators. Unlike the ghetto, the badge was deeply resented by the Jews. They combated, with all the means at their command, this mark of degradation, which made of every Jew a target of attack and greatly hampered economic activity. As time went on, however, reluctant practice became second nature.

Ghetto Law.—Within the material or legal ghetto walls the Jewish community reigned supreme. The law of the land affected Jews mainly in respect to their relations with the outside world. Usually, where only Jews were involved, Jewish law alone prevailed. Most countries recognized the validity of Jewish law and the jurisdiction of the Jewish court, not only in civil litigations but even in minor criminal matters.

The extent of judicial autonomy varied in the different branches of judicature. The supremacy of the state was most pronounced in public law. This was a domain in which Jewish law had never reached the same degree of finality as in civil law, and where the necessity of adaptation to the varying systems of government retarded its development. There the Jews acknowledged the state's sovereignty. At the other extreme was the

fully autonomous, strictly religious law. Having decided to tolerate the Jews, the medieval world generally left them unhampered to work out methods for their own salvation. The legislation of the various states was mainly concerned with devising means of adjudicating quarrels arising between Jews and Christians. Through most medieval legislation runs the fundamental intention of extending to the Jews treatment as impartial and fair as possible. On the whole, however, it was the Jewish court which seriously affected the ordinary flow of ghetto life.

Ghetto Social Institutions.—The intellectual and social life of the country was of still less importance in the everyday life of the Jew than the general law. Despite the complex social relations with non-Jews, the primary concern of every Jewish parent was to give his child a Jewish education. Educational facilities, whether for children or adults, occupied a central position in the Jewish community. The Jewish educational level in the Middle Ages was usually far superior to that of most of their gentile neighbors. For a long time, almost all Jewish youths received a type of education roughly similar to that of the Christian clergy, until the church extended its educational facilities to lay pupils.

The Jewish people developed an efficient system of meeting general and individual emergencies through charitable institutions. These were under rigid communal supervision, even when they were, in part, privately maintained. The increasing lack of security compelled all Jews to view charity as a sort of social insurance. The idea of mutual responsibility, moreover, was deeply rooted in the religious conviction that "Jews are responsible for one another." Charity was not only based on voluntary individual contributions, but a special tithe was expected to be set aside by every Jew for charitable purposes. The modern conflict between private charity and state social insurance was partly obviated by the establishment of semiprivate charitable organizations.

The community played an important role even in Jewish economic life. Its right (well established in the Talmudic period) to intervene in private enterprises, was strengthened by the general economic regimentation during the Middle Ages. As far as Jews were concerned, the whole market police, the supervision over weights and measures, the fixing of maximum prices, and the demarcation of the rights of producers and consumers, were largely in the hands of the Jewish leaders. Above all, the Jewish community was the chief tax-collecting agency for itself and for the state. The state was thus deeply interested in the power of the community over its members and tried to strengthen it by legislative measures.

To all these functions must be added the religious role of the community. Religion in general spread through all walks of life, public and private. The supervision of morals was an integral function of the community. The synagogue, in addition to being a house of worship, was the center of all Jewish social and communal life. Here was voiced the force of public opinion, so overwhelming in a small group restricted to a narrow street and aware of the minutest details of one another's affairs. Every Jew regarded himself as responsible for the sins of all, and consequently as called upon to act; the wronged could legally appeal to public opinion.

In the last instance, the Jewish community

had a peremptory means of enforcing its will: excommunication (*herem*). Few men, no matter how wealthy or well educated, could withstand the mere threat of an anathema. As a rule, the community and its court obtained unconditional surrender by applying the various degrees of excommunication. Effectiveness was greatest where wise moderation prevailed, and where the synodal regulation, demanding full cooperation of the rabbi and the lay leaders in the issuance of bans, was adhered to strictly.

Rabbinic Social Philosophy.—The heightened sense of social responsibility of the Jews in the ghetto arose from the basic need of a struggling minority for solidarity, and from the fundamental egalitarianism of the ghetto community. The Jewish group recognized the superiority of communal over individual rights to an even greater extent than did medieval Christendom. This served as a justification for innumerable regulations affecting economic enterprise. Talmudic ordinances against immoral commercial transactions were elaborated in great detail. Fair play between creditor and debtor, employer and employee, was emphasized even more sharply. Under the impact of medievalism the rabbis limited competition rigidly.

The basic insecurity of Jewish existence militated against a purely static conception of life. The dissatisfaction of medieval Jewry with existing conditions naturally stimulated a desire for change. The nature of the Jewish religion, with its crucial Messianic doctrine oriented forward rather than toward the past, steadily nourished the hope for a better future. Life was cherished as a supreme value in itself. Jewish law had practically wiped out capital punishment. Suicide was greatly discouraged. The care of a sick person was regarded as one of the highest duties of a Jew. Individual tenacity of life was, after all, the best guarantee for the survival of the people. Judaism did not regard poverty as desirable in itself. Neither was medieval Judaism affected by the celibate tendencies of the church. Marriage was, however, only a means to an end, and emphasis upon procreation was a natural complement to an ethnic religion based upon the preservation of the people. Within the family, while the supremacy of the father was uncontested, the position of the woman was little short of enviable, as compared with that of her Christian contemporary. She was the equal partner of her husband and often the responsible manager of business and household.

Stressing the entirety of human relations, rabbinic theory thus sought to achieve equilibrium between classes and groups, as well as between individuals and society. This equilibrium consisted largely in the establishment of an aristocracy of learning, accessible to everyone; and in the diversion of personal energies and ambitions into mental channels. Intellectual interests were again focused on Talmudic learning and tradition. The social philosophy of the rabbis, optimistically disregarding the existing wretchedness of Jewish life, exalted marriage, property, and work; and placed individual human needs second to the deeper purposes of Judaism and the hereafter.

The Jewish people managed for so long without state and territory because of the idealizing legal system and the strength of Jewish communal life. Through these forces the Jews developed substitutes: instead of their own country

they possessed quarters of their own in most European and Oriental cities; failing to establish their own state, they created in the community a quasi state, more powerful within its own sphere than any of the surrounding political states. Beyond all state boundaries, they established commercial, social, and intellectual interrelations which gave rise to a feeling of solidarity more real than those existing in many a political body. Rabbinical social philosophy strengthened that solidarity so necessary to the Jewish people's struggle for survival.

Meaning of the Ghetto.—The European ghetto became the embodiment of Talmudic Judaism in a form even purer perhaps than the community in Babylonia. Socially, the Jewish community was an almost uniform group of lower bourgeoisie. Economically, it was organized as a guild of moneylenders and their associates. Legally, it was a corporation with its own unique features. Territorially and culturally, it was segregated from the rest of the population by heavy barriers.

Centuries of uninterrupted living in a given country could not make the medieval Jews feel that they were other than temporary sojourners, and their neighbors regarded them in the same light. Unceasingly they dreamed of a glorious return to their native land, never dismayed by recurrent frustration. Ahasuerus, the Wandering Jew, was always on the move, not always because of external compulsions. Out of his dreams, he created substitutes for a state and a territory, without which he could not survive. Such was the ideal, the pure ghetto, of which the physical ghetto, the segregated Jewish quarter, was merely an imperfect symbol.

The flourishing Jewish centers in Spain, Poland-Lithuania, and the Ottoman Empire, had never known the crystallization of economic endeavor and the lack of social differentiation that characterized the ghetto elsewhere. The intellectual and religious life of Spanish Jewry clearly reflected the variegated pattern of Jewish society. If, in Poland and Turkey, Jewish life seemed less vivid than in Spain, this was due to the general decline of these two countries, rather than to internal Jewish developments. Jewish energies, after the auspicious start in the 16th century, were quickly exhausted by environments increasingly tending to anarchy. Even so, the contributions of Polish and Turkish Jewry to all aspects of Jewish religion and culture remain memorable.

For all Jewry, however, the physical ghetto as well as the symbolic, or ideal ghetto molded Jewish destinies even when it could not confine the multifarious social and religious trends. It is in this sense that the ghetto typified medieval Jewish life and that its gradual breakup heralded the advent of a new era.

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8. HISTORY: JEWS OF EUROPE FROM THE 18TH CENTURY TO WORLD WAR II. Jews of Eastern Europe to World War I.

—In the middle of the 18th century the Jewish population in eastern Europe totaled approximately 1,500,000, of whom the greatest number were concentrated in Poland. The Polish settlement had grown out of the nucleus of refugees who had fled from the persecutions of Christian Europe during the Middle Ages. At first, Poland had been a new Promised Land, under able and hospitable rulers. But it was a brief Indian summer of tolerance.

The great Cossack wars of the mid-17th century devastated the land. The Polish state began to founder. Administrative anarchy disrupted the country and the Jewish situation changed disastrously. Indeed, during the Cossack wars, there were massacres on a larger scale than ever had disgraced Christian Europe.

There were large Jewish settlements in Russian-controlled territory, too. Here there were severe restrictions upon movement and upon livelihood. It was fated that Russia, with its increasingly restrictive policy, should destroy Poland, take over most of it, and, by inheriting its Jews, become the largest arbiter of Jewish destiny.

Poland was partitioned in three stages; in 1772, 1793, and finally in 1795. The Polish patriots fought back valiantly, but they were no match for the coalition of Russia, Prussia, and Austria, all of whom shared in the spoils. Throughout the struggle the Jews forgot their grievances and fought shoulder to shoulder with their former persecutors. There was an all-Jewish legion, under Thaddeus Kosciuszko, which was slain to the last man, defending the doomed Polish capital.

Russian Liberalism and Reaction.—From this point forward, down to modern times, the Jews in Russia—and Russia now included most of former Poland—faced an incessant struggle for survival. Catherine the Great (r. 1762-1796) guaranteed them life and religious autonomy, but every restriction on mobility and livelihood remained to harass the Jews. In a manifesto encouraging foreigners to settle in Russia, Catherine used the phrase *kromye yzidov* (except Jews) and this exception was constantly repeated in subsequent Russian legislation. In 1791, she established the Pale of Settlement boundary, limiting all Jews to a narrow area on the west frontier. The purpose of the law was to drive Jews out of the countryside.

Alexander I inherited the Russian throne in 1801 and the early years of his reign meant a brief respite for the Jews. He relaxed some of the disqualifying laws that worked the greatest hardships, and relied upon one of his trusted advisers, Prince Golitsyn, to administer Jewish affairs. For two decades the Jews were protected

from the more violent caprices of their enemies. Toward the end of his reign, however, Alexander abandoned his liberal policies, and his protection of the Jews as well. He became so malevolent eventually that, in 1824, he uprooted thousands of Jewish families from Moghilev and Vitebsk and expelled them ruthlessly to die in the snows. The pale was further contracted and the restrictions, even in the narrower area, were tightened.

Alexander was succeeded in 1825 by his brother Nicholas I, who proceeded to rule the country as if it were a garrison. He became the reactionary gendarme of Europe, proudly boasting that he had dedicated himself to the principles of autocracy, nationalism and orthodoxy. A ruler of this type could not be sympathetic to any minority group, and Nicholas despised the Jews above all others. His reign was a thirty-years' war against them.

It is significant that of approximately 1,200 laws created to restrict Jewish life in the years between 1649 and 1881, more than half belong to the period of Nicholas I. A typical law related to military service. Seven out of 1,000 Russians were conscripted for 25 years' service in the army; but 10 out of 1,000 Jews. Moreover, the period was increased to 31 years for Jews because they were taken at the age of 12 so the youngsters could be sent to preparatory camps. They were transported long distances, away from Jewish influence, and every device was used to destroy their Jewish loyalty. The Pale of Settlement was further narrowed by new edicts. The persecution became scandalous enough in 1843 to call forth protests from all of civilized Europe. These protests, however, Nicholas ignored, and he was supported in his policy toward the Jews by some of the leading literary lights of Russia, including Pushkin, Gogol, Lermontov, and even the tolerant Turgenev.

Nicholas died in 1855, during the Crimean War, whose disastrous mismanagement revealed the rottenness of the whole autocratic regime. The accession of his son, Alexander II, was hailed as the beginning of a new era of hope.

Alexander was well educated and surrounded himself with good advisers. He inaugurated his reign with a series of epoch-making reforms, both political and judicial. He climaxed his enthusiasm for reform by liberating 40 million serfs in 1861.

Alexander's reforms in the status of the Jews were superficial and dictated primarily by the desire to assimilate them more readily. He did, however, relieve the horrors of the Nicholas system and the Jews gained in the general liberal high tide. The deadly policy of juvenile conscription came to an end at once. Schools and universities were opened to the Jews. Some of the great Russian cities were made accessible to certain favored classes. Jewish names began to appear among those of prominent lawyers. Jewish physicians found useful careers even in the army. Jewish financiers invested in Russian national enterprises, exploiting mines, building railroads, and helping in the development of the country.

Alexander's liberalism, however, also wore thin near the end of his reign. He found that his modest reforms only stimulated a desire for further concessions. Revolutionary activity did not subside. Indeed, there were several attempts on his life. Alexander concluded that only through stern measures could the Russian people be held

in subjection. He began to repudiate his liberal concessions, censored the press, and inaugurated a policy which harried liberals at every turn.

Jewish life was naturally vitally affected by Alexander's abandonment of his earlier liberal policy. In 1871 the main Jewish Talmudic schools were closed. The Odessa pogrom of 1871 was stirred by the cry, "Fight Jewish exploitation." At the Congress of Berlin in 1878 the Russian representative was the only important statesman who opposed the granting of legal equality to eastern European Jews. Accusations of ritual murder began to crop up again. There was a trial in 1878 in Kutais, in the Caucasus, and though it ended in acquittal for the Jewish defendants, it was a clear indication of how deep-seated the animosity to the Jews had become. In 1881, Alexander was assassinated by revolutionary fanatics and Russian history became, in Herzen's words, a long list of martyrs and a register of convicts and political prisoners.

The next czar, Alexander III, who came to the throne in 1881, possessed his grandfather's narrow prejudices. The brutal assassination of his father had reinforced his natural hatred of liberalism and his first proclamation called for a continuance of autocracy. He surrounded himself with bigots who turned him against the "pestilential" ideas of western Europe. He was especially influenced by his former tutor, Konstantin Pobedonostsev, who was procurator of the Holy Synod and despised parliamentary institutions, free discussion, and tolerance. Pobedonostsev began a war on all minority groups, especially the Jews, and his fanaticism earned him the title of a second Torquemada.

The new regime was inaugurated with a series of anti-Jewish riots which raged through the year and spread to every part of Russia where Jews lived. The riots, or pogroms, were undoubtedly centrally organized, and the government did little to check them. The press, especially the Pan Slavic nationalist press, contained inflammatory material that further encouraged the riots and the plundering. The minister of the interior insisted that the pogroms were the natural consequences of the economic practices of the Jews. Instead of taking measures to put an end to the outrages, he appointed commissions to investigate Jewish "exploitation."

At the beginning of 1882, the government finally checked the excesses. The result, however, was merely to transfer the right of persecution to the state. "Temporary rules" were issued, known as the May Laws, which remained in force until the outbreak of war in 1914. The pale was again materially narrowed. Jews were prevented from moving and were interned in the few places where they were permitted to live. The special classes of Jews who had settled throughout the empire during the tolerant decade of Alexander II's reign were investigated and in most cases expelled. Security of residence disappeared. Whole communities were placed at the mercy of the police, who exacted immense bribes in return for lenience in executing the brutal laws. The May Laws aroused the indignation of the civilized world, but all protests went unheeded.

Emigration.—Pogroms, civil disqualifications, legal and economic restrictions, and increased military obligations, all gave tremendous impetus to Jewish emigration. At first the Russian officials attempted to check the great flight which

began after the May Laws of 1882. The emigrants were harried wherever they turned; but despite all difficulties, tens of thousands left during the 1880's. In the last three years of the decade more than 100,000 escaped. Most of them turned to the United States, which still had an open door and welcomed those who sought its shores. By the end of the century, the Russian administration changed its attitude toward emigration and openly encouraged it. It seemed to be the easiest solution to the problem of a Jewish population.

In 1891, Baron Maurice de Hirsch, a German railroad magnate and one of Europe's wealthiest Jews, founded the Jewish Colonization Society. Baron de Hirsch suggested that the Russian government cooperate in his plan to settle Jews in the Argentine, where he hoped to transport 25,000 annually, to become farmers. Russia accepted with alacrity and tried to facilitate such emigration. Few of the Jews, however, wanted to go to the Argentine and, after 10 years, only 10,000 had settled there. Most of the emigrants turned to the United States. Millions of Jews were still left, however, when Nicholas II ascended the throne in 1894. His reign precipitated two of the bloodiest decades in the history of the Jews in Russia.

Fall of Russian Autocracy.—Nicholas II was a weak-willed, superstitious puppet whose court was a refuge for fanatical pilgrims and reactionary advisers. For the Jews, persecution soon began on a larger scale than ever. Pogroms came as regularly as the winter snows. By the end of the century, Jewish economic and social life had been completely demoralized. The census of 1897 revealed an astonishing amount of pauperism among a people always too proud to beg.

The opening of the new century brought a new wave of revolutionary activity in Russia, and many Jews were prominently involved. The government labelled the whole liberal movement a vast "Jewish conspiracy," and called upon loyal Russians to save the state from the machinations of "aliens." When the ultrareactionary Vyacheslav K. Plehve became minister of the interior in 1902, he tried to divert attention from the rottenness of the regime by deliberately inciting large-scale massacres of the Jews. The pogroms that followed, beginning in Kishinev in 1903, horrified the world.

The liberal movement grew despite every attempt of the rulers to turn up Jewish scapegoats. Russia was defeated in the Japanese war (1904-1905) and the defeat proved beyond all doubt the inefficiency of the Russian autocracy. The czar was frightened at last into convening a Parliament, the Duma, which met to draw up a new constitution and to democratize the Russian state.

In the very act of calling the Duma, however, the leaders planned a horrible means of vitiating the reforms. Bands of ruffians, the Black Hundreds, were organized to terrorize liberals and perpetrate new pogroms against the Jews. October 1905 was one of the blackest months in Russian Jewish history, a St. Bartholomew's massacre on a much larger scale. In Odessa alone, hundreds of Jews were cut to pieces, thousands were wounded, and more than 40,000 homes and shops were destroyed. In the first Duma, which met in 1906, the Jewish leaders vigorously protested the outrages and demanded that the perpetrators be brought to justice. The assembly, however, could offer only sympathy, since its own exist-

ence hung by a thread. Indeed, within a few months, the government felt strong enough to dismiss the assembly altogether and to call for a new election.

For another year there was a tug of war between the government and the liberal leaders of successive Dumas. Then, in November 1907, a purge began in which 1,800 liberals were hanged, including many Jews; for Jews were now naturally in the forefront of the battle for a democratic state. In 1911 a ritual murder case, involving a Jew, Mendel Beilis, was permitted to disgrace Russian justice, and the affair dragged on for years. Diplomatic pressure alone compelled the eventual release of the victim.

The outbreak of the European conflict in 1914 brought about the suspension of all repressive legislation. In a fervent appeal for the loyalty of all his subjects, Nicholas promised equality to all races and creeds who would rally to the support of Mother Russia in her fiery ordeal. Unfortunately, the belated promises meant nothing. The Russian autocracy was rotten to the core and, under the impact of a gigantic war, its whole structure collapsed. Nearly seven million Jews under Russian jurisdiction were now caught in the vortex of war and civil strife, which was to bring such misery that it made everything before seem trivial by comparison.

Jews of Western Europe to World War I.

Significance of the French Revolution.—On the eve of the French Revolution, the Jews of the world numbered less than three million; a pariah caste, disinherited politically, restricted economically, and despised socially. A few of the more enlightened Christian spirits of the 18th century, Lessing, Montesquieu, and Mirabeau, protested against the servitude of the people which had produced Christ. But their voices could scarcely be heard. The mass ignorance, the selfishness of classes who feared the Jews, the emotional repugnance even of the educated, the deep-rooted faith in a Christian state, were all tremendous obstacles, through which mere phrases about equality and Christian brotherhood could not cut.

It required a great convulsion, a readjustment of social and economic values, to alter conditions for the Jew. Toward the end of the 18th century the convulsion came, through the French Revolution, a mighty force which destroyed the *ancien régime* and laid the foundations for a new world.

The French Revolution, with its emphasis upon human dignity, marked the beginning of the modern period in Jewish history. To be sure, the restrictions against Jews in France were not immediately removed by acceptance of the doctrine of liberty, equality, and fraternity. Certain factors delayed for a brief period the admission of Jews to citizenship in the republic. There was still anti-Jewish sentiment, especially in the eastern provinces. The opposition of the Catholic Church to the revolution, and the very gradual accomplishment of the new freedom were other retarding elements. But the Declaration of the Rights of Man and of the Citizen, proclaimed in 1789, set a pattern which ultimately transformed Jewish life.

There were approximately 50,000 Jews in France in 1789. Four fifths of this number were in Alsace and Lorraine, living under the most degrading circumstances. There were smaller Jewish communities in Paris and Bordeaux. Special deputations appeared before the Constituent

Assembly to seek the protection of the new government. For two years the assembly dealt recurrently with the Jewish question. Count Mirabeau and the Abbé Henri Grégoire stand out as the leading spirits in implementing the legislation which eventually bestowed full citizenship upon the Jews of France. In January 1790, those Jews known as Portuguese, Spanish, and Avignonese were granted full citizenship. In November 1791, all Jews of France, without regard to origin, became active citizens (*citoyens actifs*). Thus, for the first time, the Jews ceased to be aliens and became Frenchmen.

The Jews now exhibited their loyalty to the nation through membership in the National Guard, through financial aid to the government, and through moral devotion to the new republic. During the Reign of Terror (1793-1794), the Jews suffered casualties, the desecration of synagogues, and inability to observe the Sabbath and other holy days because of the introduction of a new calendar. Throughout this period, however, their rights as citizens were never questioned and they emerged as loyal and respected members of the new state. The new Constitution of the Directory reaffirmed Jewish equality in 1795.

The victory of the republicans in France precipitated a general European war, with Austria, Prussia, and England allied against France. In 1795, the victorious French troops established the Batavian Republic in Holland. Here Jews had found a haven of refuge for many years; at the time of the French victory there were about 50,000 in the country, of whom 20,000 lived in Amsterdam. Though the spirit of equality was accepted by the Dutch, the proportion of 50,000 Jews in a total population of 2,000,000 created a reluctance to admit Jews to full citizenship lest the country as a whole become unduly "influenced" by them. A second impeding factor was the fear on the part of the traditional Jews that emancipation offered a threat to the practice and survival of Jewish religion. French intervention finally forced the issue, and on Sept. 2, 1796, the Jews of Holland obtained the citizenship status already enjoyed by the Jews of France.

Napoleon.—European history from 1796 to 1815 is largely the story of Napoleon Bonaparte and his extension of the spirit and achievements of the French Revolution. Wherever his victorious legions arrived, the walls of the ghetto fell. After the defeat of the Austrian Army in Italy, the Jews of that territory were able to throw off the worst types of medieval restrictions, especially in Rome where they were virtually serfs under Pope Pius VI.

There were constant setbacks, however. Guild members feared competition from Jews; the church made use of anti-Jewish sentiment to regain lost control; reactionary forces attempted to reassert themselves in French political life. During the first five years of the 19th century, therefore, the entire Jewish question was reopened.

Napoleon was besieged with requests to eliminate Jews from active participation in the life of France. He offered an attentive ear to much of this anti-Jewish agitation, but he refused to yield to it. He kept experimenting with various forms of Jewish communal life, a Sanhedrin, a consistory, and other vehicles of responsibility, hoping to create something which would give the Jews security and yet bind them integrally to the life of the country. In 1808, a new consis-

torial organization was decreed, establishing the Jewish community on a corporate basis. Consistories were created in every department where there were more than 2,000 Jews. To the synagogue was now assigned the duty of providing for Jewish conscription.

At the same time that the consistories were announced, legislation was enacted restricting, for 10 years, Jewish loans to peasants. Under this law new trading enterprises could not be undertaken by Jews without special permission. Though this legislation meant ruin for many individual Jewish families, the Jews as a whole had achieved legal status and a measure of autonomy. The consistorial organization remained in force in France until 1905, when state and church were separated.

The progress of Jewish emancipation continued. After the defeat of Prussia and the Third Coalition, Napoleon instituted reforms in the Jewish position throughout the German states. The new kingdom of Westphalia granted Jewish citizenship in 1808. Special taxes were abolished, and Jews were admitted to all types of economic enterprise. A consistorial organization was formed to regulate congregational life and to act as intermediary between the government and the Jewish community. When the duchy of Frankfurt was created in 1810, the Jews obtained the privileges of full citizenship, despite the opposition of the archduke. In Baden, all Jews, except moneylenders and petty traders, were granted citizenship. In the Hanseatic cities, restrictions against Jews were eliminated. Even in Prussia, which resisted most strongly Napoleon's influence, Jews were granted citizenship in 1812, although they remained ineligible for state office. Catholic Bavaria and Saxony held out longest against a change in the position of the Jew. When the Iberian Peninsula was annexed by Napoleon, the Inquisition was abolished in Spain, though by that time there was no Jewish community in that country.

Post-Napoleonic Reaction.—The final defeat of Napoleon in 1815 set loose once more all those forces he had brought into subjection. For 30 years after Waterloo, liberalism struggled with reaction. The lot of the Jews varied in each country with the fate of democratic rule. Countries smarting under years of occupation by French troops developed a new spirit of nationalism which held that the Jews were aliens.

For a while, unemployment and other economic dislocations were utilized as ammunition in the battle against Jewish rights. Legitimists sought to restore the monarchy; the church sought to re-establish former privileges; and reaction everywhere set in again. Throughout western Europe was heard the anti-Jewish cry "HEP! HEP!" (*Hierosolyma est perdita*). In Germany the old Jewish restrictions now reappeared nearly everywhere. Almost as soon as French control had disappeared from Frankfurt, the ghetto was re-established and the Jews were again forced to live under the irksome regulations which had embittered their lives for centuries. Lübeck and Bremen at once expelled most of their Jews and deprived the others of civil and political rights.

The cry for repression did not come solely from the ignorant. Goethe, the choicest spirit of the new Germany, was a leader in the movement of 1823 to reimpose humiliating restrictions upon the Jews of Saxe-Weimar. A professor of the newly organized University of Berlin advocated

the restoration of the medieval badge, "that the German who could not recognize his Hebrew enemy by face, gait, or speech, might do so by the doubtful badge of honor." A rabid Teutomania developed, idealizing a Christian Germany and warring upon "the godless" and the "soulless."

In Austria, too, the Jewish lot rapidly deteriorated. Only "tolerated" Jews could live in Vienna, upon payment of a tax. Visiting Jews had but 14 days to transact their business and had to pay taxes for the privilege. A special division of police, the *Judenamt*, was maintained to execute all the anti-Jewish restrictions. The general level of the Jews was so low that they possessed no effective organization to help them regain their civil rights.

In Italy, where some of the states had tasted a brief interlude of freedom, ghettos were restored, the Inquisition was re-established, and every Jewish right was revoked. Degradations inflicted on the Jews included compulsory attendance five times annually at the Cathedral of Saint Angelo to hear a missionary address by a priest. Jews had to pay their taxes in a carnival ceremony to which they came dressed as clowns. It was not until the reign of Pius IX, which began in 1846, that a change occurred in favor of the Jews in Italy. By that time the new spirit of Young Italy was abroad in the land and the church found it necessary to listen.

The renewed persecutions, however, helped to revive Jewish solidarity. Thousands of Jews in every western country, intoxicated by the new freedom which, for them, followed Napoleonic conquests, had rushed to take advantage of their new opportunities. Many of them had severed all connections with their own people and sought to identify themselves completely with the European world. The persecutions, however, did not discriminate between the assimilated and the unassimilated. The cry of "Hep! Hep!" was hurled at both alike. Those who had left the fold now looked wistfully back. With all its sorrows, the old life seemed to promise at least self-respect. The weary and the disillusioned who had sought to escape the identity of Jewish fate and fortune began to turn again to their people.

Temporary Triumph of Liberalism.—Then, in the mid-19th century, came another insistent attempt to eradicate the remnants of feudalism. In every country, powerful liberal movements warred against the existing systems of law and government. In these revolutionary movements the Jews played no unimportant role. Circumstances made them liberal; the black reaction everywhere had driven them into the ranks of those who opposed the status quo. By training and temperament too, most of the Jewish leaders were opposed to suppression of constitutional and national liberties. Jews were prominent in every movement which led to the revolutions of 1830 and 1848. Sometimes they were associated with the middle-class struggle for democratic reform; sometimes with the working-class struggle for radical social reform; or again, with the nationalists in their attempts to win independence or autonomy.

In time there were encouraging victories. German reaction was powerfully modified after 1848. During the regency of William I (r. 1871-1888), the first emperor of the new German state, Jews were identified with every important enterprise and became a powerful element in the

bourgeoisie. Though there were occasional outbreaks against them, they had won substantial security. In Austria, a reactionary government yielded in 1867 to the spirit of the day and accepted a new constitution, the *Ausgleich*, which became a Magna Carta for all minority groups. The Jews could now live everywhere in the land; they were made eligible for all positions, and eventually were admitted even into the hereditary nobility. In Italy, the Papal States were wrested from church control in 1870. The country was united under a liberal, democratic king. The Jews began at once to play an important part in political and intellectual life. In 1907, Ernesto Nathan, a Jew, was elected mayor of the Eternal City itself.

England had long been the most advanced country in Europe, politically and economically, with the result that its Jews lived in an atmosphere comparatively free of restrictions. Industrial development and the growth of international trade created opportunities for Jews to invest capital in industry and to engage in commerce. Their civil position was that of other nonmembers of the Church of England, the Dissenters and the Catholics. Jews could not be barristers, nor high-ranking officers in the army and navy, nor could they sit in Parliament or hold important municipal offices. A Jew could not earn a degree at Oxford or Cambridge. These were minor irritations, however, and were later removed.

In such an environment, the Jews, like all minority groups, found it possible to complete their Europeanization. The old order, which had segregated them outside the pale of civilized life, now seemed very far away. Here was a new world which called for the talents of the individual man who, regardless of faith or creed or race, could develop his potentialities and take whatever place he could win by competition. Jews could now set forth with courage, with heads held high, to build their homes in peace and security. Buttressed by the strength of the Industrial Revolution, the democratic way seemed as assured as the stars in the firmament. The Jews did not dream that the new order was still only a respite, a brief interlude; that it all depended upon the stability of the new economic and social system.

The New Anti-Semitism.—Before the new liberalism had long run its course there were storm signals up again in every part of Europe. In Germany, anti-Jewish feeling was used by Bismarck to relieve him of the pressure from National Liberals, Catholics, and Socialists, against whom he was fighting. An anti-Semitic political party was formed. Its members were recruited from among clericals, Junkers, extreme nationalists, and opportunists. Physical violence against Jews followed, with boycott of Jewish merchants. In 1891 a ritual murder case occurred in Prussia. Though the excesses gradually ceased, the Jewish community was left severely scarred. The hopes contained in emancipation began to fade. Many Jews abandoned the country for America, forerunners of a continuous migration to the New World.

In Austria, the clericals and aristocrats had never accepted the *Ausgleich* of 1867. After the financial crisis of 1873, there were sharp attacks upon the liberal *bourgeoisie* and the Jews. Literary anti-Semitism became a powerful political influence. In 1895, the anti-Semites captured the

municipal council of Vienna and installed Karl Lueger, a notorious Jew-baiter, as burgomaster. Until the outbreak of World War I, the country was ruled by anti-Semites. There were continuous outbreaks throughout the country, culminating in the riot of Prague of 1897. The Jews of Austria-Hungary had made every attempt to ally themselves with the forces of liberalism and progress, yet in every crisis, they found themselves insecure. Their confidence in emancipation gradually died.

Even in France the new anti-Semitism found "respectable" outlets. The clericals and Royalists joined to attack the position of the Jews. In 1894, a Jewish captain, Alfred Dreyfus, was accused of selling military secrets to Germany and court-martialed. He was condemned to solitary confinement on Devil's Island for life. Two years later, a young officer, Lieut. Col. Georges Picquart, as a result of information that came to him as head of the Intelligence Department, became convinced that a terrible injustice had been done. When he brought the case to the attention of his superiors he was told to drop the matter and was transferred to a foreign station. Picquart then began an earnest campaign to correct the injustice. Zola, Anatole France, and Clemenceau used their influence to obtain a new trial for Dreyfus. Zola was ruined and had to flee France, and Picquart was dismissed from the service. It became plain that the issue was between clericalism and militarism on one side, and anticlericalism and civil supremacy on the other. Dreyfus was eventually cleared in 1906, a year after the separation of church and state. The years of inflammatory anti-Semitic propaganda had their effect, however, and Jewish confidence was still more severely shaken.

One of the results of the new disillusionment was that Jews began to think about the re-establishment of a Jewish homeland in Palestine. Zionism, long a sentimental dream, now took shape as a political instrument.

Theodor Herzl (1860–1904), the founder of modern political Zionism, had begun life as a confirmed assimilationist, confident that the Jewish future lay in complete absorption in European life. Having witnessed the Dreyfus case and its anti-Semitic results, however, he began to reappraise the Jewish position. In 1896 he published *The Jewish State*. He did not fare too well in winning the support of the financial leaders, but the Jewish masses were drawn to him. In 1897 he convened a Jewish congress in Basle, Switzerland, which drew up a program declaring, "The object of Zionism is to establish for the Jewish people a publicly and legally assured home in Palestine."

Large bodies of influential Jewish opinion, especially in western Europe, violently disagreed with Herzl, terming his Zionism an unfortunate defeatism. As it turned out, however, Herzl was building a realistic instrument which was to prove a godsend in the days that lay ahead.

Jews of Europe Between the World Wars.—World War I began a new annihilation process for Jewish life in Europe. All peoples suffered, but a great part of the war on the eastern front was fought primarily in the area where the Jews were concentrated. Along the frontiers of Austria, Germany, and Russia the devastation for the Jews was incalculable. There was more than military carnage, blockade, and starvation. There were also pogroms, executions, and whole-

sale deportations. When the war ended, the foundations of corporate Jewish life in every eastern European country had been so severely shaken that it seemed impossible for normal living to be restored.

Yet, hope was not completely abandoned. Woodrow Wilson had made glowing promises. There was to be a new social order, better opportunities for all, regardless of race or creed. The Allied statesmen had made many commitments. The minorities of eastern and central Europe were to be guaranteed national and cultural rights enforced by international law. The Balfour Declaration of 1917 held forth to the Jews the glowing vision of a national homeland in Palestine.

But Jewish hopes, like the hopes of the rest of the world, were soon to be dashed. The next 25 years turned out to be the most tragic in all the mournful history of the Jews—a steady deterioration climaxed by almost complete annihilation in every European land. The two decades that followed the peaceless peace treaties were filled with deepening crises. Civil disturbances, debt, inflation, poverty, unemployment, despair—the record was the same everywhere. Amidst such conditions, the Jews were constant targets for the hungry and disillusioned masses, for the unscrupulous demagogues, and for the lunatic fringe.

Rise of the Nazis.—The center of infection was Germany. The democratic government that had been established in the first years of peace was an empty name. The old reactionaries—Junkers, industrialists, disgruntled military cliques—remained in control behind the scenes, ready at the right moment to move in again. As social distress deepened, a violent anti-Semitism spread through the country, stimulated by these groups. It was a portent of the horrors to come when Albert Einstein, one of the greatest geniuses of all time, was hooted by nationalist hooligans in the university lecture halls of Berlin.

Out of the fears, distress, and national humiliation of the German people, a powerful new party developed: the Nazis. Their fanatic purpose was to smash the democratic state, rebuild the military strength of Germany, defy the Allies, and drive the Jews out of Europe. The creator and spearhead of the party was the ruthless Adolf Hitler, whose career was to change the history of the modern world.

In 1933, Hitler became chancellor of Germany. He quickly destroyed all opposing political parties and compelled a subservient Reichstag to grant him dictatorial powers. He then launched a revolution that was to shatter most of those political, cultural, scientific, and religious canons that had been the glory of the German past. At the same time he turned to the fulfillment of his pledges regarding the Jews.

There were, at that time, 600,000 Jews living in the country, constituting one of the oldest and most useful sections of the population. The purge began moderately but the tempo soon moved up relentlessly. Jews were expelled from all public posts and then driven from professional life. In 1935 came the infamous Nuremberg Laws which deprived all Jews of citizenship rights and set them apart as a special degraded caste. By 1938 there were carefully planned pogroms. The practice of national fines was established, through which the Jewish community was mulcted of its savings. All of these

actions faded into insignificance, however, once World War II began. Behind the iron curtains of war and censorship, it was possible to round up the Jews, ship them off to annihilation centers, and there to liquidate them—men, women, and children.

Hitler Conquers Europe.—In 1938, Hitler boldly defied the Allies and marched into Austria. Though that country's independence had been internationally guaranteed, Hitler dissolved its corporate existence and declared it to be an integral part of the greater Reich. Another quarter of a million Jews were at once brought under the jurisdiction of the dread swastika. In one devastating swoop they were ejected from their places in the social order and relegated to a new caste of untouchables. Those who could, migrated or fled the country. The old, the infirm, the hopeless, who could not obtain visas or who had waited too long for flight, were soon on their way in sealed cars to the extermination camps of the east. Even the world-famous Sigmund Freud, father of modern psychoanalysis and one of the glories of Austrian life, was not spared. As he went into exile, his contribution to modern science was contemptuously stigmatized by the Nazis as "Jewish pornography."

Czechoslovakia was next. Here lived more than 350,000 Jews, a sturdy, middle-class group, highly respected, highly educated, and proud of a tradition that went back to the Middle Ages. Again, Hitler's first victims were the Jews. It was the same pathetic routine: expulsion from positions, destruction of all civil rights, homes raided, property expropriated, physical brutality, executions, degradation, and finally, expulsion and mass extermination.

The tide of disaster rolled eastward. Poland was the home of more than three million Jews. These had already suffered heavily; for the Poles, themselves only just freed, had tainted their new national life with a violent anti-Semitism. Economic restriction had gradually cut away opportunities for the Jews until half of them were reduced to beggary or kept alive by remittances from relatives abroad or by Jewish relief agencies. With Hitler came the crowning catastrophe.

World War II began when Hitler attacked Poland in 1939. In less than two months the 20-year-old Polish state was once more destroyed. In conformity with a prearranged plan, Polish territory was partitioned between Germany and Soviet Russia. A million Jews came under Soviet rule. Two million fell into Hitler's clutches. Thenceforth, German-occupied Poland became a great charnel house. Most of the Polish Jews were destroyed in the gas chambers and the crematoria which German ingenuity and thoroughness had devised for the purpose. To the Polish death houses were sent hundreds of thousands of Jews from every other part of Europe conquered by Hitler. He was determined to erase the Jewish people, and he almost succeeded.

End of the Jewish Community in Europe.—After his conquest of Poland, Hitler moved west and south. He took Belgium, Holland, France, and the Balkans. Every conquered country was looted and the population reduced to vassalage. The Jews were systematically uprooted and sent out to die. In the end, the combined power of the United Nations armies destroyed the destroyer, and the lands that he had despoiled were

freed. But the six million Jews who had been wiped out in history's greatest holocaust could not be brought back. There could be no restoration of Jewish community life in Poland, Germany, Austria, Czechoslovakia, Rumania, Hungary, perhaps even in the countries of western Europe. Left were a bare million survivors, mostly sheltered in temporary refugee camps, determined never to return to lands where all their dear ones had perished.

The Soviet Union still supported a major Jewish settlement, numbering about two and a quarter millions. Here, too, Jewish life had been radically transformed. In the Soviet economy, state planning was substituted for private enterprise, eliminating the middleman and smashing the *bourgeoisie*. It was extremely difficult for the Jews to adjust to this sudden change, for most of the Jews belonged to this doomed middle class.

After years of pain, travail, and learning how to cope with agriculture and industrialization, the younger generation of Jews finally made their adjustment. They were grateful, despite hardships, for a system which outlawed anti-Semitism and punished racial bigotry as a reactionary crime against the well-being of the state. But properly, the Jews of Russia could no longer be counted as part of the historic Jewish community. The Communists, for more than a generation before World War II, had combated all organized religion. Not only was atheism actively propagandized, but the teaching of religion outside the home was prohibited. A whole generation of young people grew up to look upon religion as an opiate, and to identify religious practice with superstition. The Jews of Soviet Russia were no longer basically tied to the world Jewish community; and, with processes of assimilation so complete, even nominal ties were disappearing.

Jewish Survival.—With the Jews of Soviet Russia rapidly assimilating, and with most of the Jews of Europe erased by Nazi sadism, the survival of Jewish life depended upon two historic settlements. The first was in Palestine, where 600,000 Jews had settled in the first four decades of the 20th century, a sturdy, vigorous, confident group, as firm in their faith as any generation in the long adventure of the Jews. This center, which became the independent State of Israel in 1948, was the final haven for most of the survivors in eastern Europe, whose coming swelled the population of the new nation to over a million Jews by the end of 1949.

The other center was in the United States, whose five million Jews constituted the strongest Jewish community in history, inheriting the mantle of Jewish destiny which rested successively on the communities of Palestine, Babylon, Spain, Turkey, Poland, and Germany, and which now had moved to the Western World.

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9. HASIDISM. Hasidism, from the Hebrew word *hasid* (meaning pious, devout, godly), is a Jewish mystical, religious movement led by saddikim or zaddikim (holy men) who emphasize piety, worship, and contemplation rather than learning, dogma, and ritual. Hasidism originated in southeastern Poland in the middle of the 18th century. Scarcely a hundred years after it came into existence, it had spread so rapidly that whole communities of Jews became converted to its doctrine. In time, it won numerous adherents in Europe and Palestine, as well as in America in the 20th century. Through its glowing faith, exuberant optimism, and vitalizing enthusiasm, it stirred the religious feelings and imagination of nearly all classes of Jews, quickening almost every phase of Jewish religious and cultural life.

Hasidism emerged when the Jews of Poland—where the great bulk of Jewry lived at that time—were severely depressed psychologically and impoverished economically. The "terrible decade" (1648-1658) of the Chmielnicki massacres had brought the Jews to near-extinction. The collapse of the delusion revolving about Sabbatai Zevi (1626-1676) had shattered the Jews' faith in Messianism. The cabalistic mysticism of Isaac Luria (1534-1572), with its gloomy rites and penitential extravagances, had left them physically and mentally exhausted. The Jews of Poland had no political rights, no social status, and no economic stability. The time was ripe for a deepened religious consciousness to revitalize their lives.

Baal Shem-Tob.—It was in such an atmosphere that the insurgent movement of Hasidism was born, under the inspirational guidance of Israel ben Eliezer, known as Baal Shem-Tob (master of the good name). Baal Shem-Tob (1700-1760) was a man of humble origin, only moderately learned but of deep piety, with an extraordinary knowledge of human nature and a fanatic devotion to his people. He first dispensed cures, wrote amulets, revealed secrets, and prognosticated the future after the manner of the wonder-working cabalists of his day. Soon, however, he evolved a system which established his reputation as a gentle teacher and healer of spiritual wounds.

Much about this romantic figure is legendary. To this day, there is no authentic biography of him. Hasidic legend has it that he spurned the traditional methods of learning and spent his days in the solitude of the hills and groves of Okup, the village in which he was born. With nature his only teacher, he found joy and holiness everywhere. He beheld God in everything, and everything in God. He found something pure and holy in every act of living. He conceived an unalterable faith in all men and under all conditions; the rich and the poor, the wise and the simple, the pious and the sinner. Filled with a mystical ecstasy, he improvised his own deep

and stirring prayers, utterly unlike the melancholy ones he had heard in his youth.

After years of preparation, Baal Shem-Tob came down from the hills and settled in Miedzyboz, Podolia. He gathered disciples about him and, through stories and parables, taught them the truths that had come to him in the mountains. He preached to his followers not to despair even if they were not learned, that a warm and sincere heart was more acceptable to God than a head crammed with knowledge. He instructed them in the joyful affirmation of life, and warned them against the self-tormenting practices of the ascetic cabalists. He dwelt upon charity, love, compassion, and the brotherhood of man, without distinction of social station.

Baal Shem-Tob had not intended to introduce a new sect. It was the development of his theories in the circle which formed about him that led to the movement known as Hasidism. He preached Judaism, but with a new shift of emphasis and practice. The effect of his teachings was electrical. The masses loved their master and a new enthusiasm came over them. A democratic brotherhood shaped itself in the small company of men about the gentle teacher. Lives that were dismal became aflame with *hittahabut* (ecstasy); prayers once recited mechanically were now uttered with *kavannah* (fervor). Men did not so much pray as they sang and danced their devotions. Thus evolved from the spiritual hunger of the masses this unique type of individual in Jewish history known as the Hasid.

The progress of Hasidism did not remain unopposed, however. It was attacked from many directions. While the protagonists of Haskalah (enlightenment) resented its "obscurantism," the traditional rabbis feared in it a new sectarian movement in Judaism. Talmudic learning was treated lightly by the Hasidim, who scoffed at the official representatives of the synagogue. New prayer houses came into being. The old prayer book was modified. The dignity of divine services was impaired by shouting, yelling, and all sorts of facial contortions. Jews who remembered the Sabbatian heresy dreaded the Hasidic innovations.

The Saddik.—It was the cult of the saddikim, however, which was the principal target of attack, for the saddik had become the symbol and incarnation of the Hasidic ideal. He stood on a level not reached by the ordinary man. He was the saint, the superman. His power and influence were practically unlimited. He could not only dispense blessings and forgive sins, but salvation was impossible without him. A type of ecclesiastical functionary without precedent in Jewish history came into being, whose power was not always used discreetly. There were dynasties of saddikim whose ambition was often more temporal than spiritual. Critics of Hasidism maintain that a great deal of the poverty, ignorance, and superstition of the Jews of Russo-Poland before World War I was due to the lowered standards of the saddikim.

Attempts were made to reform the abuses of the saddikim, principally by Nahman Bratzlav (1770–1811), poet, mystic, and storyteller, who was a great-grandson of Baal Shem-Tob; and by Sheneur Zalman of Ladi (1747–1812), leader of the rationalist Hasidic school called HaBaD (acrostic formed from *hakma, bina, dea*: wisdom, understanding, knowledge). These attempts did not meet with any great success.

Hasidism's Decline.—While Hasidism was in power, it held sway over nearly half the Jews of the world. The "courts" of the saddikim, where credulous crowds gathered for healing, blessing, prognostications, and advice in worldly matters, were often marked by great sumptuousness and pomp. The spell did not last long, however. The spread of education among the Jews weakened the hold of the saddikim. Attacks upon their questionable piety increased. Lacking a central organization because of the multiplication of Hasidic dynasties, the saddikim could not successfully counter the onslaught. Up to the time of the world wars, however, Hasidism was too firmly entrenched among the Jews of Russo-Poland to be completely uprooted.

Despite the attacks against it and the impact of two world wars, Hasidism proved itself remarkably resilient. Declining and stagnating in some parts of the world, it continued to struggle for power and recognition in others. Great Hasidic houses and powerful dynasties moved westward in the attempt to establish themselves in the United States. In many instances they succeeded. There were few large Jewish communities, even after World War II, without their Hasidic "saints" and conventicles, with thousands of followers.

Despite its drawbacks, Hasidism exerted a strong positive force upon Jewish life. The emotional world of Hasidism was so broadly creative that it exercised a considerable fascination for a large variety of men, themselves not of the Hasidic faith. Notwithstanding its mysticism, these men discovered in Hasidism the breath of modernity. In religion, Hasidism made spiritual growth possible by infusing an enthusiasm and spontaneity which saved Judaism from stagnation. By creating a democratic society in which class distinctions disappeared, it spread a glow of happiness over lives that were bleak and dejected. Hasidism also inspired music, drama, poetry, fiction, and painting, and produced a galaxy of truly original religious types.

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10. EMANCIPATION. Historical Origins.—In the feudal period, Christian birth and hereditary status determined the life and vocation of every individual. The feudal order allowed for no social fluidity. The Jew, an outcast theologically, lacked legal status. He lived by grace of bought privileges, and engaged in occupations not sanctioned by contemporary law and mores. Such an existence was highly precarious, as the decline in the Jewish population and the history of Jewish martyrdom in the Middle Ages testify. This decline would doubtless have resulted in the extinction of the Jews on the European continent, had it not been that their un-

sanctioned medieval occupations—trade in money and goods—were the precursors of the new economic order of international commerce and industry.

As commerce expanded, its dynamic principles of free competition and free individual initiative helped to break up the feudal system in which Jews had no legitimate niche, and to bring about the capitalistic order which was more hospitable to them. Commercial, and later, industrial capitalism required unrestricted, competitive opportunity in order to develop. It had to throw off the complex and artificial system of rights, privileges, tariffs, and bounties, all of which had their roots in religious and political absolutism, and which regulated minutely the economic, social, and religious life of the people.

The rising commercial, industrial, and professional classes had to struggle against guild, church, and other medieval regulations for constitutional government, for the rights of man—and, indirectly, for Jewish emancipation as well. The philo-Semitic aspect of the movement was incidental to the general aim of the bourgeois classes for freedom from government and church interference.

The American and French revolutions represented the alignment of new social and economic forces within the state. No sooner was despotism curbed, than the middle classes monopolized the political power, basing the right of suffrage on possession of property and payment of taxes. It was so in France, in the United States, in England, and in other European countries. This impersonal test of citizenship was a favorable factor which helped ease the admission of Jews to equality of rights. The circumstance that Jews were overwhelmingly a city population, skilled in occupations necessary for the development of the new urban industries and trades, was another factor working for Jewish emancipation. This urban status was especially effective in the early stages of the development of industrial capitalism, when the majority of the population in each country was rural, and, in most cases, legally bound to the soil. Later, when the non-Jewish merchant and industrial classes grew in strength, the Jewish middle classes began to be viewed in many countries as superfluous competitors. This was especially true in Poland and the German-speaking lands.

The economic buoyancy of the times was paralleled by an intellectual unrest which had a strong influence on the course of Western civilization and Jewish emancipation. This ferment was seen in the development of rationalistic philosophies, in the advance of the natural and social sciences, in the demand for free thought, and in the challenge to the literal interpretation of the Scriptures. It was manifested, above all, in a humanism which colored almost every phase of the scientific and literary output of the period.

This trend, as far as it directly influenced Jewish emancipation, was first heralded in 1510, by Johann Reuchlin, in his defense of Hebrew letters. Later, the cause of religious toleration and Jewish rights was taken up in England by John Toland, in 1714, in his famous work, *Reasons for Naturalizing the Jews in Great Britain and Ireland on the Same Foot with all Other Nations*. In France, it was championed by Abbé Henri Grégoire, in an essay submitted to a learned Catholic society in 1781; and by Count Mirabeau in his work on Moses Mendelssohn, in

1787. In Germany, Gotthold Ephraim Lessing dealt with Jewish emancipation in his plays *Die Juden* (1749), and *Nathan der Weise* (1779).

Forces For and Against Emancipation.—In most countries there was a delay between the granting of political and religious freedom to the general population and the application of this freedom to its Jewish members. This lag was caused by the combined resistance of many forces. The anti-Jewish bias was probably the strongest of these forces. It permeated most levels of the population, except for a thin stratum of liberal intellectuals and clerics. Its ages-old grip was not to be dissolved by a political pronouncement.

In many lands, attainment of equal rights by Jews was retarded by the prevailing belief that the state must be a Christian institution. The Prussian Constitution of 1850, while declaring the equality of all citizens, proclaimed Christianity as the basis of all government institutions. This voided many of the rights which Jews, as citizens, were supposed to enjoy. In Russia, the concept of the state as a Christian institution prevented the Jews from acquiring equal rights until the fall of czarism brought about the separation of church and state. In England, full emancipation of Jews was withheld until 1858, when the House of Commons altered the parliamentary oath, thus allowing Jewish candidates to omit the Christian formula.

The greater deterrents to Jewish emancipation, however, were the remaining feudal, ecclesiastical, economic, and other backward elements within the state. These forces fought the new equality with a counter-emancipation that made itself felt in varying degrees throughout the 19th and 20th centuries. The counter-movement was particularly strong in Germany, Austria, France (the Dreyfus Affair), Poland, Rumania, and Russia up to the Bolshevik Revolution. In Germany, it culminated in the Nürnberg Laws (1935) and the mass slaughter of Jews as Jews.

The outcome of emancipation in England and the United States was different. In England, emancipation followed an evolutionary course and was woven into the warp and woof of parliamentary tradition. In the United States, the struggle for independence, the lack of vested feudal interests, the frontier mode of life, the large immigrant element, and the diverse religious and ethnic composition of the population, all resulted in the general and genuine acceptance of religious and political freedom as the very foundation on which the new state rested.

Finally, within the Jewish population itself there were elements which resisted outside efforts at emancipation. These elements were apprehensive of the dangers that would beset the Jewish mode of life, once the barriers between the ghetto and the outside world were removed.

The earliest instance in which Jews are mentioned as deserving equal rights is found in the treaties of peace and navigation (1657) concluded by the United Netherlands with the king of Spain, and in other pacts involving the United Netherlands. These treaties declared that the members of "the Jewish nation are truly subjects and residents of the United Netherlands, and that they also must enjoy, possess and profit by the conditions, rights and advantages provided" in the agreements.

Jewish emancipation first became fully effective in the American colonies. The Surinam Act (1665), seeking to encourage Jewish com-

mercial and industrial activity in the colony because "the Hebrew nation have with their person and property proved themselves useful and beneficial," promised old and new Jewish settlers "that they shall be considered as English-born." The same desire to attract Jewish immigrants and trade to the colonies inspired the deletion of the words "upon the true faith of a Christian" from the naturalization formula of the Plantation Act of 1740. This law was adopted for Great Britain in 1753, but was repealed the following year under Tory pressure.

The French Revolution, in the historic Declaration of the Rights of Man and of the Citizen (1789), proclaimed that "Men are born and remain free and equal in rights." Two years later, the French National Assembly annulled all anti-Jewish regulations and restrictions. The date marked a turning point in the history of the Jews in Europe.

By the first half of the 19th century, emancipation had been generally extended throughout western Europe. During the second half of that century, it spread to the countries of central Europe. But not until the second decade of the 20th century did it reach eastern Europe. This retarded development in eastern Europe was largely due to the attitude of the landed classes. It was their influence which checked the progress of industrial capitalism and its accompanying development, the democratic state.

In Russia, the first relaxing of anti-Jewish legislation coincided with the Reconstruction following Russia's defeat in the Crimean War in 1855 and the abolition of serfdom in 1861. Following the assassination of Alexander II in 1881, however, the rise of Pan-Slavism and the ascendancy of the landed nobility brought about renewed anti-Jewish legislation which remained in force until abolished by the Bolshevik Revolution. The Soviet Union supplemented its emancipation of the Jews by recognizing the Jewish nationality and establishing the Jewish Autonomous Region of Birobidzhan on May 20, 1934.

The political reaction following the defeat of Napoleon brought in its wake revocation of rights granted to Jews in the German and Austrian states, as well as in Italy. In France, however, the Bourbon Restoration did not affect Jewish emancipation.

The Nazi attack on Jewish emancipation in the 20th century was an accompaniment of its all-out assault on economic and political liberalism ushered in by individualistic, competitive capitalism. The nationalistic capitalism of the Nazis bred an intense, chauvinistic spirit which resulted in total war against Western civilization. In this war, Jewish emancipation was completely liquidated wherever the German armies penetrated.

Effects Upon Jewish Life.—Probably no single event or combination of events in the postexilic history of the Jewish people had so profoundly influenced and altered Jewish life as the emancipation process of the late 18th and 19th centuries. Before emancipation, Jews were a ghetto people, ignorant and suspicious of non-Jewish cultures. Both Jewish and Christian leaders viewed Jewish lack of secular education as a major obstacle to emancipation. Christian Wilhelm Dohm, in his *Über die bürgerliche Verbesserung der Juden* (1781), called upon his government to cultivate education and a knowledge of the German language among Jews. The

Edict of Toleration of Joseph II of Austria in 1782, the Prussian Royal Commission appointed in 1789, and Prince Uvarov of Russia in 1844, all recommended the establishment of schools for Jews as the chief means of improving their civic conditions. Within the Jewish group, Moses Mendelssohn and his followers in Germany, as well as leaders of the Haskalah (enlightenment) in Russia and Galicia, carried on active propaganda for the dissemination of secular education among Jews as a prerequisite for their emancipation.

The Jews, deeply conscious of the great discrepancy between their economic position in the developing capitalistic economy and their very low political status, set themselves with enthusiasm to acquiring secular culture. How well they succeeded is evident in the phenomenal contribution which they made to the Western civilization of the 19th century. Before that century closed, Jewish names ranked high in the physical sciences, medicine, literature, the arts, journalism, politics, and economics.

The inward transformation that took place in Jewish life during the 19th century was equally great. A school of Jewish writers appeared, who, influenced by the rationalism of the period, subjected to a merciless critique all phases of Jewish social, economic, and religious life. They clamored for the people's emancipation from those inner repressions imposed by a rigorous, strait-laced orthodoxy and by centuries of cultural and physical isolation. The Hebrew magazine, *Hameasef* (The Ingatherer) founded by Moses Mendelssohn in 1784, was the earliest expression of this trend. Salomon Maimon (1753-1800), Lazarus Bendavid (1762-1832), and many others called for the reinterpretation of Jewish religion in the light of "reason."

The French Revolution and the struggle for emancipation suggested external and doctrinal changes in the Jewish religion. The external changes related to matters of ritual, such as the use of the vernacular in the service, playing of the organ in the synagogue, and the elimination of certain prayers. The doctrinal changes centered around a new concept of Israel's destiny. This concept denied the need for survival of Israel's historic Hebraic heritage, and rejected Zion as the ultimate locus of Israel's fate.

In the history of the Jews, these changes generated an unprecedented assimilationist movement which consciously strove (and still strives) for the elimination of the national, cultural, and ethnic characteristics of the Jews as a people. It aimed at making Jews identical in everything except religion with the ruling majority group in the state. This assimilationist movement accorded with the philosophy of the newly emerging democratic state, which was based on the principle of individual citizenship and was jealous of all corporate estates. On the other hand, it appeared at a time when a strong resurgence of nationalism in Europe rose to oppose the cosmopolitanism of the period. This resurgence expressed itself in the rebirth of national cultures, languages, folkways, and the arts.

As a political movement, Jewish nationalism appeared at the end of the 19th century, when the Jewish middle classes, especially the intellectuals, had become disillusioned with the workings of emancipation. Russian pogroms in the 1880's and the Dreyfus Affair a decade later were among the chief sources of this disillusionment.

Within a century and a half following the French Revolution, the Jewish population grew from about 2,500,000, to over six times that figure. This increase was part of a general expansion of the world's population. The granting of political rights did play a minor role in the Jewish population growth, but the major part of the increase occurred in eastern Europe, which remained unemancipated until the second decade of the 20th century. Commercial and industrial developments were a greater spur to population expansion than political rights. During this period the Jewish people spread over most of the world. New settlements sprang up in the Americas, the largest and most influential one in the United States; others were established in South Africa, Australia, and Palestine.

The 19th and 20th centuries witnessed the increasing urbanization of the Jewish people. In the 18th century, the Jews had lived in villages and small towns. By the 20th century, they were almost wholly a metropolitan people. Prior to the 19th century, most of the Jews, except for a thin stratum of the great merchants and bankers, were petty traders and hucksters. As the Industrial Revolution developed, as guild regulations were abolished and special anti-Jewish economic restraints were removed, the economic position of the Jews underwent a sharp transformation.

By the 1930's, Jews were represented in every trade, occupation, and profession, including agriculture, both as employers and workers. Their occupational classification before World War II was roughly as follows: commerce and finance, 38.0 per cent; industry, transportation and crafts, 36.0 per cent; professions and public service, 7.5 per cent; agriculture, 5.0 per cent; miscellaneous, 13.5 per cent. About 50 per cent of all Jewish earners were wage earners. The difference that formerly existed between the economic classification of Jews and non-Jews in each country had greatly narrowed down.

During almost the entire post-emancipation period, anti-Semitism in different forms and degrees affected the Jewish population of most countries. As a highly urbanized minority living under severe social pressures, the Jews developed a high sensitivity to social change. This was reflected in lower birth rates and higher death rates than those of the general population in almost every land; in rising suicide rates, and in an increasing number of baptisms and intermarriages. In most countries of western and central Europe during the first three decades of the 20th century, the annual number of Jewish births failed to balance the number of deaths. Many demographers foresaw a sharp decline in the Jewish population of Europe even before Nazism began its ruthless extermination of the Jews.

IMPORTANT DATES IN JEWISH EMANCIPATION

- 1787—United States Constitution: "... no religious test shall ever be required as a qualification to any office or public trust under the United States."
- 1789—French Declaration of the Rights of Man and of the Citizen: "Men are born and remain free and equal in rights."
- 1791—French National Assembly grants French citizenship to Jews.
- First Amendment to United States Constitution: "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof..."
- 1796—Batavian Republic of Holland removes civil disabilities against Jews.
- 1797—Abolition of ghetto in Venice and Padua by French occupation forces.

- 1798—Abolition of ghetto in Mainz.
- 1810—Abolition of ghetto in Rome.
- 1811—Abolition of ghetto in Frankfurt.
- 1812—Edict of King Frederick William II of Prussia proclaims Jews "natives of the country and Prussian citizens."
- 1823—Quebec Emancipation Act.
- 1848—Kingdom of Sardinia removes disabilities against Jews.
- German National Assembly at Frankfurt declares that "religious adherence shall not condition or restrict the enjoyment of civic and state rights."
- Denmark grants Jews full equality.
- 1858—British House of Commons alters parliamentary oath, allowing Jewish candidates to omit Christian formula in taking office.
- 1862—Jews of Baden attain civic and political equality.
- 1867—Constitutional changes in Austria and Hungary remove civic and political disabilities against Jews.
- 1870—Capture of Rome by forces of united Italy extends Jewish emancipation throughout country.
- 1871—German Imperial Constitution adopts principle abolishing restrictions based upon religious differences.
- 1874—Revision of federal constitution of Switzerland proclaims full religious liberty.
- 1878—Treaty of Berlin removes disabilities against Jews in Rumania, Bulgaria, Serbia, Montenegro, and Turkey.
- 1917—Balfour Declaration for "the establishment in Palestine of a national home for the Jewish people."
- Overthrow of czarism; Declaration of the Rights of the Peoples of Russia, abolishing "all national and national-religious privileges and restrictions."
- 1936—Constitution of USSR: "... the preaching of racial or national exclusiveness or hatred or contempt is punishable by law."
- 1948—Establishment of State of Israel.

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11. HASKALAH. The word Haskalah, meaning enlightenment in Hebrew, has been commonly used to characterize a cultural movement in Jewish life which originated in Germany in the second half of the 18th century and spread to eastern Europe. Its promoters, called Maskilim (pioneers of progress), strove to secularize traditional Jewish religious education and to convey European culture to the Jews.

Attempts to acquaint the Jews with the languages and cultural trends of the countries of their residence had already been made in the 16th century. Under the impact of the Renaissance, a number of Italian Jews lectured at universities and participated in literary and scholarly activities of that period. Jewish students, chiefly from Poland, attended Italian universities to study medicine and brought back to their Polish homes an interest in worldly knowledge. In addition, Polish Jewish merchants who traded abroad eventually acquired the languages of other countries and became familiar with general cultural movements. A Polish Jew, Israel Zamosc (1700-1772), author of various books on mathematics, physics, astronomy, and philosophy, was a teacher of Moses Mendelssohn (1729-1786, q.v.), the founder of Haskalah. Other Jewish scholars from Poland and Lithuania were among Mendels-

sohn's collaborators. Genuine attachment to worldly knowledge prevailed to a still greater degree among the Sephardic Jews in the Netherlands of the 17th and 18th centuries. This cultural trend usually accompanied the attainment of favorable economic conditions.

Western Europe and Germany.—The Sephardic Jews maintained close contact with the outer world. They spoke and wrote Spanish or Portuguese, in addition to Dutch and Latin, and took part in various literary and scholarly endeavors. In Germany, too, the emergence of a prosperous class of court Jews, merchants, and manufacturers, prepared the ground for the Haskalah. Another decisive factor was the spread of the European Enlightenment in the 18th century which promoted intercourse between Jews and tolerant Christians. Some of the latter advanced the idea that the Jews should be integrated with the surrounding Christian society and obtain civil rights. The condition was attached, however, that the Jews give up their distinctiveness in customs and manners, secularize their education, and try to merge their own culture with that of the community about them. Mendelssohn, who represented such a synthesis, became the outstanding protagonist of the Haskalah. His German translation of the Pentateuch in 1783, and a commentary on the Bible, called *biur*, undertaken by his collaborators in the same year, were events of prime order in the history of the movement. They had a far-reaching effect on modern Jewish cultural developments.

Despite bitter opposition on the part of orthodox rabbis, the Haskalah leaders continued their efforts, encouraged by the Edict of Toleration (1782) proclaimed by Emperor Joseph II of Austria. Naphtali H. Wessely, one of Mendelssohn's chief lieutenants, hailed the edict in a Hebrew epistle addressed to the Jewish people. In 1783, the Maskilim formed in Königsberg a Society for the Cultivation of Hebrew Literature, and a year later started the publication of the first Hebrew periodical, *Hamecasef*. Both steps were indicative of the cautiousness of the new movement, which aimed at fostering the neglected Hebrew language, rallying around itself exponents of Hebrew culture, and promoting normal systems of education. In 1787, however, this association changed its name to the Society for the Good and Noble. Still later, in 1792, it was renamed Society of Friends, with its headquarters in Berlin.

In time, the bonds with Judaism loosened. The schools started by Haskalah educators in various cities came under the growing influence of German culture, and Jewish subjects were reduced to a minimum. The Hebrew periodical was discontinued in 1811. Many followers of the Haskalah, and many more Jews not strictly connected with the movement, severed their ties with Judaism completely and embraced Christianity. The same thing happened in the German-speaking provinces of Austria.

Galicia.—A different picture was presented, however, in the Austrian Province of Galicia, where the Jewish masses were strongly attached to rabbinic orthodoxy and Hasidic beliefs. There the Haskalah, despite desperate efforts of progressive Jewish educators, had not taken deep roots among the bulk of the Jewish population. Except for a few cities, such as Brody, Lwów, and Tarnopol, where wider groups were won for the Haskalah, the number of followers was

rather small, though they were spread over the province.

The Haskalah in Galicia emancipated itself to a considerable degree from the German spirit, emerging as a genuine cultural movement, sponsoring research into Hebrew literature, archaeology, the history of the Jews, the modernization of Jewish schools, and an ardent fight against the bigotry and vagaries of Hasidism. At the same time, the Haskalah fostered keen interest in general knowledge. The encyclopedic work, *Sefer Ha-Berith* (1797), by Elijah, a native of Lwów, which embraced a wide range of scientific and philosophical subjects, was eagerly studied by younger generations for many decades. The Galician Haskalah produced a number of Hebrew magazines of high literary standard, and contributed greatly to the development of Jewish scholarship. The philosopher Nachman Krochmal; the critic of rabbinical literature, J. H. Schorr; the biographer of medieval Hebrew scholars, Solomon J. L. Rapoport; and the writer and educator, Joseph Perl, are but a few of the outstanding figures of the Galician Haskalah whose influence extended beyond the Austrian frontier to Rumania and Russia.

It is interesting to note that some of the Polish and Lithuanian rabbis of the second half of the 18th century were influenced by the liberal trends fostered by Mendelssohn and his followers. The highest rabbinical authority of that period, Elijah, the Gaon of Vilna (1720–1797), stated that the knowledge of algebra, geometry, and astronomy, as well as of Hebrew grammar, is indispensable for a better grasp of the Talmud. Other nonrabbinical contemporaries of Mendelssohn in eastern Europe, such as Mendel Levin and the philosopher Salomon Maimon, went much further in asserting their positive attitude toward the spread of general culture among the Jews.

Russia.—The proper foundations of the Russian Haskalah were laid in the period of Alexander I (r. 1801–1825). A Jewish upper class emerged then, consisting of prosperous contractors and businessmen who, together with a few scholars and professionals, sponsored progressive cultural trends among their fellow Jews. The liberal tendencies of the early years of Alexander's rule led those Jewish leaders to think that civic equality was imminent, and this belief naturally stimulated the Haskalah movement. In addition, the spread of general knowledge was favored by the opening of Russian universities to Jewish youth in 1811, and the establishment of modern Jewish public schools in Odessa, Kishinev, Minsk, Uman, and other cities.

The Russian Maskilim, however, were wise not to follow the program of their German predecessors who had rejected Yiddish, the tongue of the popular masses. Indeed, some of the enlightened Russian Jews used Yiddish as a means of educating the masses. They planned, in 1804, the publication of a periodical in Yiddish, in addition to one in Hebrew. Even more significant was the effort of Mendel Levin to publish a Yiddish translation of the Bible. One of the most popular Yiddish writers, Isaac M. Dyk (Dik) was a staunch champion of enlightenment. The program of the Russian Haskalah was defined by its chief protagonist, Isaac Baer Levinsohn (1788–1860), in his book on Jewish education, *Teudah be Israel* (1828), as follows: study of the Bible combined with that of Hebrew grammar; use of the vernacular and the study of

foreign languages; acquisition of secular sciences; devotion to manual crafts and agriculture; and curbing of early marriages.

These modest demands, however, were regarded as revolutionary manifestations under the prevailing conditions and aroused bitter opposition. The advocates of the Haskalah movement, though they approached their task with great caution, were even more handicapped by the reactionary, anti-Semitic, and repressive policies of the government in the reign of Nicholas I (r. 1825–1856). Max Lilienthal, a young Jew who served on the staff of the imperial minister of education, acted on behalf of the government as propagandist of enlightenment. This "enlightenment" was to take the form of forced Russification and even, in some instances, attempts at conversion of the Jews to the Russian Orthodox faith. It failed utterly. Lilienthal appeared in the eyes of the Jewish masses as a "missionary." He himself soon realized that he was a tool of the Russian bureaucracy and left Russia secretly in 1845. Under these circumstances, the promoters of Haskalah had to remain on the defensive, spreading their ideas under cover in order to avoid reprisals from vast sectors of traditional Jews angered by ruthless czarist policies.

With the awakening of liberal tendencies under Alexander II (r. 1855–1881), the progressives became more active. Among their ranks were now the alumni of the rabbinical seminaries at Vilna and Zhitomir. These institutions had been founded in 1847 and 1848, respectively, and were conducted in the spirit of the Haskalah. The writings of Isaac Baer Levinsohn and Mordecai Aaron Ginsburg (1795–1846), among others, began to circulate more widely. They even reached the traditional religious schools, or Yeshivahs, whose students read them clandestinely but with great zeal. Through these writings, the Talmudic students became interested in the development of Hebrew literature and in general cultural and social movements.

In the 1860's the younger generation of Russian Jewry was under the spell of Russian literature, which championed freedom for the socially and politically oppressed. A Russian Jewish press was founded to spread these new theories of enlightenment even more boldly. In 1863, the Society for the Diffusion of Enlightenment Among the Russian Jews was formed in St. Petersburg by a group of intellectuals and businessmen. It had a vast educational and cultural program which included the establishment of public schools, trade schools, libraries, and the publication of works on Judaism. While both the newly established society and the Russian Jewish press stressed the importance of assimilation with the Russian way of life, the Haskalah literature in Hebrew continued to develop along the lines adopted by the founders of the movement. Many a Russian Jew either deserted the Jewish faith or became indifferent to the Jewish cause, owing to the trend of Russification. Many others, however, continued to combine interest in progressive Russian culture with the promotion of creative Jewish values in Hebrew or Yiddish, until they were awakened from their dreams to brutal reality.

The political reaction which made itself felt throughout Russia in the last years of Alexander II and gained in vigor during the reign of his successor, Alexander III (r. 1881–1894), resulted in staggering repressive measures against the

Jews. These caused further pauperization in the miserably crowded Pale of Settlement, and the pogroms of 1881 and 1882 provoked new despair among the Jewish population. The enlightened Russian Jews now realized the futility of their hopes and ambitions and turned to other ways of helping their people.

A return to Palestine, the ancient home of the Jewish people, offered the opportunity of rehabilitation as a nation. To many of the Maskilim it seemed a goal worth fighting for. The Russian Haskalah thus lent an incentive to the rise of Zionism. The Haskalah, moreover, was instrumental, through its cultivation of the Hebrew language, in providing the modern Jewish community in Israel with its national tongue. Other sectors of Russian Jewry, such as organized labor, as well as the various groups and parties fighting for political emancipation and national Jewish rights, had also been nurtured on the ideals of the Haskalah. Thus, Haskalah fulfilled its task of enlightening generations of Jews and, in addition, became a vital force in the process of shaping modern Jewish political and social developments.

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12. RELIGIOUS AND PHILOSOPHICAL MOVEMENTS. The beginning of the modern period, insofar as Judaism is concerned, must be reckoned from the middle of the 18th century. The humanistic renaissance of the 15th century and the subsequent advances in science and philosophy produced scarcely a ripple in Jewish thought. To be sure, in Italy, there were a few Hebraic echoes of European humanism, and in Holland the giant figure of Benedict Spinoza towered as the last of the great Jewish medieval philosophers. Italian Jewry, however, was small in numbers and influence, while Spinoza lived under the shadow of the ban imposed upon him by the rabbis of Amsterdam. In the 18th and 19th centuries, the bulk of European Jewry was to be found in Russia and Poland. These countries in turn were in direct commercial and cultural contact with the cities of Germany, where there were flourishing Jewish communities.

The Age of Reason raised the challenges of deism and skepticism to the theistic faith of Judaism. To the deists, all religious rituals were merely survivals of ancient superstition, and orthodox Judaism entailed the observance of a multitude of rigid laws. The 19th century, which saw the rise of modern naturalism in its multiple forms, further aggravated the challenge to Judaism. On the other hand, modern theistic liberal thought accepts the unitarian conception of God, rejects the doctrine of original sin, and upholds the principle of the freedom of the human will. Thus, it is in basic agreement with the essential faith of Judaism.

The task of modern Jewish philosophy consists, first, in proving the validity of theism

generally; and, secondly, in demonstrating the special value and significance of the survival of the Jewish group and its ways of life. It is not sufficient merely to expound Judaism as one of the many particularized forms of organized religion. As the religion of a persecuted minority, Judaism needs a powerful *raison d'être* in order to overcome the escapist tendencies of its adherents. This proof of the unique and supreme significance of Judaism was generally based either upon an estimate of the values inherent in Jewish lore and ritual, or upon the extraordinary growth of Jewish national feeling in the modern period. This is why questions of Jewish nationalism and ritual play so important a role in modern Jewish philosophy.

Judaism came down into the modern period in the form of three separable streams of belief and feeling: dogmatic or anti-intellectualist Judaism, philosophical Judaism, and mystical Judaism. While the boundaries between these three types of faith are vague and shifting, it is nevertheless possible to trace the generic evolution of each from the medieval era down to our own day.

Anti-Intellectualist Judaism.—Dogmatic Judaism recognizes only one source of spiritual truth—namely, the Law, as it is set down in the Bible, the Talmud, the codes, and the *responsa*. As a rule, the proponents of this type of Judaism ignore the contemporary ferment of ideas. When they do take account of the philosophy of their day, they restrict themselves to the single-minded endeavor of exposing its weakness and insufficiency. The basic structure of their argument may be summarized as follows: Man's unaided reflective thought is beset with numerous uncertainties and pitfalls, so that it is idle to rely upon it for spiritual guidance. In contrast, the teaching of tradition is clear, unequivocal, and satisfying. Therefore, one should tread in the straight and narrow path of orthodox tradition and not swerve therefrom in the least. If "the spirit of the times" is not in accord with the spirit of the Law, then it is the duty of believers to repudiate the *Zeitgeist* in the name of faith. This argument is usually fortified by the enumeration of the diverse ethical shortcomings of modern civilization and the contrasting beauties of the "Jewish utopia" as it is portrayed in the pietistic lore of Judaism.

The representatives of anti-intellectualist Judaism fall into two classes, in accordance with whether they ignore modern philosophy and science altogether or whether they take the trouble to come to grips with these disciplines of the human mind. The former group is denoted by the term Orthodox; the latter is sometimes referred to by the misleading designation of neo-Orthodox. The difference between the two groups is in the method and form, not in the substance of the argument. Orthodoxy flourished in the Talmudical academies of central and eastern Europe. Neo-Orthodoxy recruited its adherents from among the Jews in western Europe and America. Samson Raphael Hirsch in the 19th century, and Isaac Breuer in the 20th century may be considered as the leading figures in neo-Orthodox Judaism.

Philosophical Judaism: Conservatism and Reformism.—Philosophical Judaism recognizes two sources of authority—revelation and human reason. The conflict between the two guiding principles needs to be examined anew in every age, so that a workable synthesis may be achieved.

Maimonides' maxim, "The gates of interpretation are not closed to us," is a perfect expression of the fundamental attitude of philosophical Judaism. Faith in the human mind is in no whit subordinate to faith in divine revelation. Agreement between these two coordinates of the spirit is achieved, first, by a thorough critical analysis of contemporary philosophic opinion and, secondly, by a radical reinterpretation of the dogmas of the faith. It must be remembered that the authenticated content of human reason is much greater in our day than it was in the medieval period. Specifically, the application of scientific methods to the study of the history of religions was a decisive factor in the emergence of the non-Orthodox movements in Judaism, which admit the factors of evolution and adaptation into the pattern of faith.

Both the Conservative and Reform movements are products of the philosophical trend in Judaism. Both assume the essential truth of divine revelation in the Bible and subsequent sacred literature, and both esteem the noblest insights of modern philosophy and research to be of equal merit and validity. They differ, principally, on the place of ritual within the scheme of divine revelation.

The Reformist position is that only the ethical core of the Bible and Talmud is to be regarded as binding, while the various rituals and prohibitions of the Law should not be treated as intrinsically significant and normative. The Conservatives maintain that the entire pattern of Jewish piety, as it took shape through the ages, must be regarded as divinely inspired, for ritual and piety are as interdependent as body and soul. The doctrine of progressive revelation through the universal mind of man occupies a central position in Reformist thought, while in Conservative circles, this doctrine is considerably restricted and limited in its application. Conservative opinion maintains that, in the sphere of piety, the determining factor must be the conscience of world Israel, for it is not religion in general that is socially effective but the living organisms of historic faiths.

In many details of Jewish ceremonial practice, the early Reformists took up an antiritualistic attitude in the belief that undue emphasis on external ritual was bound to detract from the purity of "ethical monotheism," which it was Israel's mission to represent. The Conservatives argued that the Jewish faith was an organic product of a long historical process; that no changes in religious observance should be introduced which are not in accord with the psychic structure of Jewish piety as it is reflected in the living conscience of world Israel.

The content of ethical monotheism, as it is expounded in modern Jewish philosophy may be summarized in the following three propositions:

(1) God is other than and transcendent to the physical forces of nature.

(2) The will of God is to evolve ethically perfect beings and an ethically perfect society through the processes of history.

(3) The will of God is reflected in the moral conscience of man, who is free and innately capable of submitting to divine guidance and achieving the divinely destined goal.

Mystical Judaism.—Mystical Judaism is the third basic current in Jewish thought. Its conception of faith is primarily a matter of inner experience, not of inherited tradition or inde-

pendent reflection. There are two types of Jewish mystical religion, depending upon whether it is a derivative of dogmatic or of philosophical Judaism. The former type is represented chiefly in the Hasidic movement. (See Section 9, *Hasidism*.) For our purpose, it is important to note the neo-Hasidic or neomystical philosophies of Martin Buber, Franz Rosenzweig, and A. I. Kuk (Kook).

Martin Buber (1878–) is entirely unconcerned with Jewish law or with any of the particularized forms of Jewish religious expression. The "I—Thou" relationship between man and God, he feels, can be established and maintained as a living and fructifying experience apart from any ritualistic exercises. It is Buber's lifelong ambition to develop the art of mystical reflection as an independent and undogmatic discipline, directed toward the creation of ideal forms of social living. The intense nationalist emphasis in his writings is a typical illustration of the multiple mystical bonds of unity which he recognizes as operative in the society of mankind. Except for this nationalist-Zionist slant, Buber's thought is representative of the Reformist position.

Franz Rosenzweig (1886–1929) describes divine revelation as the periodic penetration of divine love into the actual current of human history. From his mystico-empirical viewpoint it is clear that not only the Holy Bible, but the whole structure of Jewish life and destiny reflects the seal of God's love. Even anti-Semitism is part of the divine scheme to maintain Judaism as an undying spiritual force among the nations of the world. The fact that the central principles of ethical monotheism were taken over by the Moslem and Christian worlds in varying degrees, does not mean that the divine fire of creativity no longer requires the instrumentality of the Jewish people. Judaism is the eternal sun of faith: Christianity, the life-giving, soul-transforming, world-conquering rays. Thus, the two faiths are mutually complementary in function.

Rosenzweig strongly opposed the Zionist philosophy and program. It was his belief that the Jew was divinely destined to be a perpetual ferment in world society. Israel gave up land, language, and sovereignty, clinging instead to the law of God. This exchange turned Israel into a nonhistorical people, living in the world, yet not wholly of it. Every phase of Jewish existence is directly related to this original consecration as "a people of priests and a holy nation." The Jew makes his covenant with God not as an individual, but as a son of his people.

Rosenzweig's historical approach led him to advocate the enthusiastic acceptance of Jewish law in its entirety, though with significant modifications. He opposed the Reform movement with the argument that it seeks to attain the impossible: to preserve the religious kernel of Judaism while discarding its shell. On the other hand he opposed the rigid attitude of the Orthodox, setting forth the principle that whatever rite or custom ceases to evoke the spirit of piety should not be regarded as binding.

Abraham I. Kuk (1864–1935), the former chief rabbi of Palestine, was the outstanding philosopher of Orthodox Judaism in the 20th century. A rare and genuine mystic, he attempted a synthesis between the teachings of the cabala and the Bergsonian school of creative evolution. His

writings reveal a type of religious consciousness that is centered around profound and invigorating states of mystical ecstasy. He described the various ceremonies of Judaism as so many instruments for the expression of the divine melody of faith. "As there are laws in poetry, so there is poetry in laws," he wrote. He believed that the phenomenon of prophecy was not confined to ancient times and that the uplifting grace of God was embodied in every creative endeavor of man. As a cabalist, he maintained that the prescribed rites of Orthodox Judaism possessed the mystical power to invoke divine grace and to channel it down from heaven to earth. In the re-establishment of Palestine as a Jewish homeland, he saw the promise of a revival of the prophetic genius of Israel that would rejuvenate the religions of mankind.

Zionism and Other Influences.—The rise of Zionism in the past half-century affected profoundly the religious consciousness of modern Jews. On one hand, it offered a secularist-cultural-political definition to the term Jewish. Thus, it seemed to some of its adherents to be an adequate substitute for Judaism. On the other hand, it strengthened the centripetal forces within the Jewish group, thereby rendering the Jewish religion invaluable service. Classical Reform which, at its inception, was bent upon the elimination of every vestige of national symbolism and sentiment from the Jewish faith, was impelled by the influence of Zionism to adopt a more moderate attitude in its revised official platform of 1937. Both classical and revised Reform congregations are now to be found in the United States. Conservative Judaism drew additional strength from the movement of cultural Zionism, which emphasized the spiritual qualities of Jewish nationhood and instilled a genuine though qualified respect for the historical forms of Jewish religious experience.

The Reconstructionist movement is a direct result of the impact of Zionism upon the American Jewish scene. The Reconstructionist definition of Judaism as "the evolving religious civilization of the Jewish people" makes the element of nationality substantive and that of religion adjectival in the pattern of Jewish values. This view contrasts with the Conservative position, which regards the religious element as both substantive and central, and assays the value of the national symbols and loyalties as adjectival and peripheral. The Reconstructionist view is directly opposite to that of classical Reform, which sought to eliminate from Judaism all traces of particularistic loyalty.

On the periphery of Judaism, there are many thinkers who cherish the ethical kernel of Judaism and reject its ceremonial and organizational shells. Representative of this trend of thought on the American scene was Felix Adler (1851–1933), founder of the Ethical Culture movement, who began his career as a rabbi, and later disavowed all connections with Judaism. In modern Israel, there are many cooperative settlements, organized along the idealistic lines of Jewish ethics, dedicated to the "religion of labor," and rejecting any direct allegiance to the religion of Israel.

Outstanding Jewish Philosophers.—The names of the following men are, in addition to those mentioned above, milestones in the evolution of modern Jewish philosophy:

Moses Mendelssohn (1729–1786), a ration-

alist philosopher. His main thesis: All that needs to be known for salvation is revealed in the mind and conscience of man. The principles of ethical monotheism are contained in the common core of the Jewish and Christian traditions. The ceremonies of Judaism are revealed laws for the regulation of the life of Jewish people in accordance with the ideals of universal religion and ethics. These laws are obligatory only for those who identify themselves with the Jewish people.

Nachman Krochmal (1785–1840), a Hegelian philosopher and historian. His main thesis: The Absolute reveals Himself through the spiritual history of nations; the yearning of the Jewish national soul is for the complete unfolding of the Absolute Idea in the good society. Israel's mission is unfulfilled so long as the Kingdom of God envisioned by the prophets is still a dream, not a reality. Hegel's identification of the perfect society with the Prussian state was rejected by Krochmal, whose vision of the future was patterned along the lines of Jewish tradition. It follows that Israel is an eternal people so long as it remains true to its character and loyal to its faith.

Abraham Geiger (1810–1874), expounder and defender of the position of classical Reform and the principles of "ethical monotheism." He described the religious consciousness as centered around the awareness of tension between the infinitude of God and the limitations of man. Out of that tension there arises the aspiration to be like unto God in the exercise of moral freedom and in the quality of ethical holiness. This aspiration is the essence of Judaism and this essence is divinely revealed.

Israel Lipkin of Salant (1810–1883), founder of the "Mussar" movement. This pietistic movement aimed at the attainment of ever deepening mental states of piety. It evolved a complex method of ethical self-criticism and religious contemplation.

Solomon Ludwig Steinheim (1789–1866), who re-established the Maimonidean conception of revelation in the face of Kant's criticism. To Steinheim, divine revelation is the word of God who speaks when He chooses. The forms and categories of human reason, however, constitute the channels through which true revelation is manifested. While revelation is the matter, reason is the form of all religious truths.

Asher Ginzberg (1856–1927), known as Achad Haam, philosopher of cultural Zionism. His main thesis: The innate tendencies of the Jewish national soul consist principally in a yearning for the realization of the absolute moral order; the whole structure of Judaism is the crystallized social form of this dynamic subconscious urge. Through the re-establishment of Israel in its ancient homeland, a normal and adequate environment will be provided for the healthy growth of the ethical genius of Judaism. The Jewish religion was the product of Jewish national existence; the reborn life of the nation is certain to provide new religious insights and values.

Hermann Cohen (1842–1918), neo-Kantian philosopher. To Cohen, philosophy is a systematic critique of the human mind, a critique which consists of three basic trends of culture—the processes of logic, ethics, and esthetics. Religion is the basic motivation which impels the individual to pursue faithfully his ethico-esthetic insights. The concept of God is an implication

of the fundamental aspiration of man for truth; it lies at the base of all "pure" forms of man's "culture-consciousness." Genuine religion is concerned exclusively with the evolution of the ethical conscience. In the sources and life of Judaism, pure religion, as distinguished from mythology, is embodied. In Judaism, God is defined principally in ethical terms. He is transcendent to both logic and ethics, yet immanent in all moral acts and "pure" thoughts. His will is expressed in the qualities of love and justice. Cohen believed that the worship of God consists of a "drawing near" to Him, through intellectual "truthfulness" and ethical aspiration. The social goal of this "drawing near" is the Messianic Kingdom, as described by Isaiah and Micah.

Mordecai M. Kaplan (1881–), a pragmatist philosopher and founder of Reconstructionism. His main thesis: Religion is primarily a social phenomenon; Judaism is the evolving religious civilization of the Jewish people. Its ceremonies and concepts must be continually reinterpreted and refashioned in accord with the highest values of contemporary culture.

Solomon Schechter (1847–1915), founder of the Conservative movement in America. Schechter taught that revelation does not consist of ideas or books so much as of the living values of the organized group. The judgment and pattern of piety of living world Jewry, therefore, should be the decisive factor in the adaptation of Judaism to the modern scene.

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13. YIDDISH LANGUAGE AND LITERATURE. Prior to World War II, Yiddish was spoken, or at least understood, by about 12 million persons, or almost three fourths of the Jews of the world. It has, therefore, been referred to by the average person—although incorrectly—as "Jewish." Yiddish is etymologically akin to the German *jüdisch*, which, together with the archaic *Deutsch* (German), constituted the designation (Judeo-German) by which the language was known until recent times. Yiddish is written in Hebrew characters and contains a large number of Hebrew and Aramaic words. It also embodies thousands of Slavic expressions, as well as a small number of words from English and other languages. The core of the vocabulary, however, is of Germanic origin.

The Rhine Valley is generally considered to be the birthplace of Yiddish. After the rule of Charlemagne and the Franks had receded from central Europe, Old High German became the language of the Jews living in that area as

well as in other regions along the Rhine, the Main, the Danube, and in Bavaria. At first scarcely more than a German dialect, Yiddish gradually took on an independent cast. The first documentary evidence of the language, a leaflet on phlebotomy recently discovered in the Cologne archives, dates from 1396. We must bear in mind, however, that nothing short of a miracle would have preserved earlier secular writings in Old Yiddish through the constant banishments and wanderings of the Jews. It is likely that the ancestry of Yiddish dates from the 10th century.

11 Old Yiddish corresponds to the earliest phase of Middle High German, then Middle Yiddish would parallel its parent language as spoken from the 14th to the 18th centuries. Modern Yiddish was ushered in about 1750. Its Slavic loan words came from the growing traffic between German Jews who had settled in Russia, Poland, and Bohemia, and the Jews from those countries who had wandered to Germany. The Slavic words and phrases took their place beside the German, Hebrew, and Aramaic locutions, thus forming a well-knit language. The proportion in modern Yiddish of words of German origin is about 65.5 per cent; that of Hebrew and Aramaic origin, 12.5 per cent; and of Slavic origin, 18 per cent. International expressions provide about 2.5 per cent; English 1 per cent; and Romance and other languages perhaps 0.5 per cent.

The large proportion of German in Yiddish does not alter the fact that in form, pronunciation, and sentence structure, Yiddish is as separate from German as Spanish is from Italian; often differing in idiom, sense, and certainly in spirit. Before the writing of the first Yiddish grammar (of which there have been at least a score), the language already had its rules and norms which are now being standardized. Thus, contrary to wide misconception, Yiddish is not merely a corrupt German, and still less a *lingua franca*, as some British critics hold.

Although there are three Yiddish dialects—the Lithuanian (which includes White Russian), the Ukrainian, and the Polish—the differences are almost exclusively in the vowels. The literary, or standard, Yiddish has incorporated the best features of all three. Yiddish contains a vocabulary of close to 90,000 words and perhaps as many as 60,000 phrases and idioms. It abounds in Biblical and Talmudic allusions. Its expressiveness is often untranslatable and its manipulation of prefixes allows for a wealth of nuances. It is rich in diminutives and particles, and lends itself to hybrid formations and interlingual assonant combinations. Yiddish is perhaps the most ubiquitous of all languages. It can be heard often in corners of the world where English, French, or German is unknown.

The doom of Yiddish as a living tongue has been frequently forecast; yet since 1920 it has become the medium not only of poetry and fiction but also philosophy, science, and technology. Of the six million Jews exterminated by the Germans in World War II, over two thirds constituted the backbone of the Yiddish-speaking groups. But his loss served only to increase the lingual enacity of the survivors. The survival capacity of Yiddish lies partly in its vitality and pliability, but perhaps even more in the circumstance of its being a prime welder of Jewish communities throughout the world.

YIDDISH LITERATURE

Earliest Period.—Yiddish literature came into being eight or nine centuries ago in the Middle Ages, although the 14th century is the earliest to present concrete evidence of its existence. There are many indications, however, that there was a Yiddish oral tradition before that time, which gleemen, like the troubadours and jongleurs of other nations, carried with them from inn to inn or from fair to fair. Much of it may have been written down and lost, for printing had not yet been invented. There were no monastery vaults or governmental archives to serve as repositories for any Jewish productions, much less for anything so questionable as was written in a non-Hebraic tongue. Even that Yiddish best-seller of the last three hundred and fifty years, the *Tschno-Urchno* (a paraphrase of the Pentateuch for women), is now to be found only dating from its fourth edition, that of 1622. Were it not for the farsightedness of a wise Prague rabbi, David Oppenheimer (1664–1736), who collected Yiddish as well as Hebrew books, possibly hundreds of Yiddish books would have been entirely unknown to us.

Contrary to a general but erroneous belief, Yiddish literature did not begin with the *Tschno-Urchno*. There were three trends from the earliest period: (1) writings with a religious or moral direction; (2) books for entertainment; and (3) scientific observations, such as the leaflet on phlebotomy in 1396, or the bulky manuscripts on the analysis of urine, to be found at present in the Bodleian Library at Oxford. Not infrequently the devotional and the diversional motives were combined, as in the Sabbath ode by Zelmelin written about 1410, which in some respects resembles a spiritual.

Romances, Secular and Biblical.—As was to be expected, the romances and tales which circulated throughout Europe during the later Middle Ages seeped into the ghetto too. Itinerant Jewish gleemen, even as early as the 14th century, would render the *Hildebrandslied*, the *Wigalois* and *Die rich von Bern* romances, as well as the tale of the *Zibn W'azin Mainster* into Judeo-German, with a special Jewish flavor, shedding much of the cruelty and injecting a note of equity and justice. There is even good evidence that *Parsifal* and *Tristan and Isolde* had their Yiddish versions, although the manuscripts are no longer extant.

To compensate for what was regarded as an irreligious element in such tales, a new type of romance was introduced, based on Biblical narratives in a midrashic setting. Thus, there came into being the *Shmuel-Bukh* (an account of the exploits of King David) and similarly elaborated minstrel paraphrases of the books of Kings, Judges, Joshua, and Esther. There was also the cycle of tales entitled *Yoissiphun* (an adaptation and extension of Josephus' *Antiquities*), published in Zurich in 1546, in a beautiful edition illustrated with many woodcuts. About this time there also circulated several different cycles of some 250 stories, mainly borrowed from rabbinical literature. These were subsequently collected and published in Basle in 1602, under the title of *Maasse-Bukh*, which has been translated into English in a two-volume edition.

During this period, the primitive presses brought out various chapbooks, glossaries, miscellanies, commentaries, interpretations of the sacred law, histories, social reflections, and other

writings. In 1544, only 10 years after Luther translated the Bible into German, two translations of the Pentateuch appeared in Yiddish. One of these, published in Constance, contained also the Scrolls and part of the Prophets. The other was printed in Augsburg.

Elias Levita.—The 16th century may be regarded as the classical period of early Yiddish literature, chiefly because of the great figure of Elias Levita (1469–1549) who flourished then. What Chaucer was to English literature, Levita, known as Elye Bokher, was to Yiddish literature. A versatile and colorful personality, he seems to have been a teacher of Hebrew and a wandering poet before becoming a philologist and grammarian. He won such acclaim as to receive a call to the University of Paris. This he declined, continuing his services as Hebrew tutor to the powerful and scholarly Cardinal Egidio da Viterbo, until the latter was compelled to flee from Rome.

One of the foremost Hebrew scholars of his century, Levita also tried his hand at romances in the vernacular. He might be called the first eminent Yiddishist, in that he recognized Yiddish as independent of German and a medium in its own right. His *Bovo d'Antona*, an adaptation of the Italian version of the romance, *Sir Bevis of Hampton*, was the first great landmark in Yiddish literature. Although written in 1507, it was not printed until 1541. This romance (or series) in ottava rima became the most popular book in Yiddish. It has been reprinted so often, first as the *Bovo-Bukh*, then the *Bovo-Maasse*, that any tall story is now called in Yiddish a *hobbe-maasse* or "grandmother's tale." His other romance, *Paris un Vienne*, although more original and showing better craftsmanship, was not as popular in its appeal.

During the 17th century there were—in addition to the chronicles, elegies, commemorative poems, language guides, moralistic exhortations, anecdotal collections, and translations from the world's literature—the series of songs and stories called *Sinkhas Hanefesh* (Joy of the Soul); the two rival translations of the Bible, both published in Amsterdam during the years 1676–1679; and the first antidefamation book, *Yiddisher Teriak* (1615), by Zalmen Uffenhausen. The last-named work, a defense against the libels of the apostate Samuel Brenz, was later translated into Latin and has merits even today. Among other well-known works of that period were a social study of the Jews of Cochin, India (c.1675), and the memoirs of Glickel of Hamil. The latter work was written solely for her children and was hailed as a masterpiece when it was translated into German and English. The founding of the first Yiddish newspaper, *Kurantin*, which appeared in Amsterdam on Tuesdays and Fridays as early as 1686 was proof of the progressiveness of the Yiddish-speaking Jews of that era.

Enlightenment Period.—The decline of Yiddish literature in the 18th century may best be explained by the misguided efforts of Moses Mendelssohn (1729–1786) and his host of admirers in Germany, Russia, and Poland, to suppress Yiddish in the interests of emancipation. This resulted in the lack of any Yiddish works of a definitely creative value during practically the whole century. Isaac Abraham Euchel, one of Kant's students, wrote the first Yiddish play, but the theme, as with subsequent German Jewish

writers, was the Germanization of the Jew. In Russia, the Maskilim, or "enlightened," engaged in battle with the pious sect, the Hasidim, who, to them, represented backwardness and obscurantism. The Russian Maskilim wished to Russify the Jews, while the Polish Maskilim were equally anxious to convert them to the Polish way of life. Instead of employing Yiddish, the Maskilim spoke and wrote an *almost* correct German. Despite their efforts, however, the people continued to cling to the Yiddish tongue.

Yiddish by this time had become the language of Jews in many lands. From the early beginnings, it was not Germany alone which produced works in Yiddish, but also Italy, Switzerland, Holland, Bohemia, and then Austria-Hungary, Russia, Rumania, Lithuania, and Poland. Mendel Levin translated Proverbs and Ecclesiastes into the colloquial language of the Russian Jews, publishing the former work in 1817 and thereby drawing the fire of the proponents of the enlightenment.

The 19th century saw a turn in the tide. Israel Aksenfeld (1787–1866) a notary, produced some 30 works between 1832 and 1862, losing most of them, however, in his frantic efforts to obtain a publisher. Solomon Ettinger (1800–1865), a Polish physician, gave us the first play in modern Yiddish, *Serkele* (Little Sarah). Due to the censor's insistence on mutilating the texts, neither this play, nor his fables and epigrams were published until after his death, although they were known in neighboring cities from handwritten copies. At about the same time, in Vilna Isaac Meyer Dik (1814–1893) wrote some 400 stories and novelettes which barely gained him a pittance.

The Golden Period.—In 1864, 27-year-old Sholem Jacob Abramovitch (Abramowitz, 1836–1917), better known by his pseudonym, Mendel Moikher Sforim ("bookseller"), began to publish in serial form *Dos Kleyn Mentshle* (The Manikin), the tale of a small-town "big shot" who relates the sordid story of his rise as a result of cringing and bullying in turn. With Mendel Yiddish literature may be said to have reached maturity. The first real Yiddish stylist, Mendel produced a polished prose that rates highly even today. His reputation was made by *Die Kliatch* (The Dobbin), an allegorical commentary on the unhappy status of the Jews in Czarist Russia. *Fishke der Krumer* (Fishke the Lame), another of his famous works, is a realistic picture of Jewish vagrancy.

Writing at the same time as Mendele, Isaac Joel Linietzky created a furor with his *Do Polishe Yingl* (Polish Boy), an exposition of backwardness in Jewish communal life and one of the strongest indictments of Hasidic practice ever written. But Linietzky showed no further development and produced little else of note.

Sholem Aleichem (Solomon Rabinowitz, 1859–1916), the supreme humorist of all Jewish letters, has had scarcely an equal in modern literature. Dubbed the Jewish Mark Twain, Sholem Aleichem succeeds, because of his psychological insight, in producing a supreme blend of pathos and comedy. While Mendele was a caustic satirist bent on reforming his brethren, Sholem Aleichem was good-natured in his approach though just as realistic as his older contemporary. His *Tevye the Dairyman*, optimistic through a misfortune; his *Menakhem Mendl*, the luckless stock manipulator and promoter who

remains a pauper; as well as some of his child characters, have become almost household names among Yiddish-speaking folk.

In I. Leibush Peretz (1851?-1915) we have the master who endowed Yiddish literature with European universality. Even Sholem Aleichem moved in a ghetto atmosphere; his characters, taken directly from life, needed little interpretation. Peretz, however, forced his reader to reflect. His deft yet sublime *Folk Tales* contain an epitome of Jewish history. His *Night at the Old Market Place* is a Jewish conception of Faust, minus the heroes, although it contains dozens of characters; for Peretz does not deal with individuals. He portrays, instead, relationships, communities, situations, with the individual appearing as a cog in the collective machinery.

Both Peretz and David Frishman (the latter wrote mainly in Hebrew) began publishing in Sholem Aleichem's periodical in 1888. It was about this time that Yiddish literature definitely became aware of itself. Yiddish writers were now identifying themselves as part of a group, though proceeding cautiously, for their medium was still spoken of as a "jargon" in all accepted literary circles. The pseudonyms of many of these writers were forms of camouflage. A man like Solomon Rabinowitz (Sholem Aleichem), who had been a rabbi and who moved in middle-class society, could not afford to write humorous stories in Yiddish under his own name. It was characteristic of the period that on the masthead

Der Fraynd, which began to appear in St. Petersburg in 1903, one could read the words, "First Jargon Daily in Russia."

United States.—It was in the United States at the turn of the century that Jacob Gordin, through a series of dramatic adaptations, began the reforms of the Yiddish theater, which had been founded in 1876 in Jassy, Rumania, by Abraham Goldfaden. A large number of journalists, like Abraham Cahan, editor of the *Jewish Daily Forward*, poets of the caliber of Morrisinfeld and Yehoash (Yehoash S. Blumenthal), novelists and playwrights like Leon Kobrin and David Pinski, public speakers, lecturers, and actors such as Jacob Adler, David Jessner, and Boris Tomashchevsky, were now forging a Yiddish culture by and for the masses.

With conditions in the Old World becoming more and more unbearable, the Yiddish center in the United States grew by leaps and bounds. By 1905, New York City, with arteries leading out to Philadelphia and Chicago, had become the third great Yiddish center of the world, together with the old-world centers of Odessa (with Kiev as its outposts), and Warsaw (with Vilna as a juncture). By 1915 the Young group (*Di Yunge*) had been formed in the United States. Its purpose was to break away aesthetically from social ideologies and to revert to a literature of subjective moods. Leaders of this movement were David Ignatov, Joseph Opatoshu, and Zisha Landau. Within a few years after the appearance of the Young group there emerged the introspective school (*Intikhistsn*). Led by such writers as Aaron Leyeles (Glanz) and Jacob Glatstein, this group broadened both the technical and thematic sphere of Yiddish poetry. A later *proletpen* group (1930) stressed leftist aspirations and had a pro-Soviet orientation.

Yiddish as a World Literature.—Yiddish literature may truly be termed a "global" literature. Its writers are constantly wandering;

indeed, their very names in Latin characters change as they move from country to country. Although there have been various Yiddish literary centers, these very centers have been in a state of flux. Czarist oppression and two world wars have uprooted hundreds of Yiddish writers, while nearly 300 perished at the hands of the Nazis. Scores have sojourned in as many as a dozen countries, and a few have roamed through the continents of the world. In the USSR, many Yiddish writers have not been heard from since 1949, while prior to that time a score died in prisons and several on the battlefield.

A stumbling block in classifying Yiddish writers is their versatility. Seldom do we find a Yiddish writer who confines himself only to poetry, the novel, or the short story. Thus Abraham Reisen, a master of the short-story technique, is also a fine lyric poet. Zalmen Schneour excels as a novelist in Yiddish and is also a distinguished Hebrew poet. Most contemporary Yiddish poets write essays and are also publicists, critics, and columnists. The best-known of contemporary Yiddish writers, Sholem Asch, the novelist, has also written successful plays. His drama, *The God of Revenge*, has caused almost as much controversy as his novels, *The Nazarene*, *The Apostle*, and *Mary*.

Yiddish literature is represented in all genres and forms. Memoirs, such as those of the dramatist, Ossip Dymow, and the historian, Saul Ginzburg, unveiled before us the literary life of the great Russian city of St. Petersburg. Travel pictures and ethnographic accounts have been written by Peretz Hirshbein, Borukh Glasman, N. Mishkovsky, and Melach Ravitch. H. Shoshkies, an emissary of the Hebrew Sheltering and Immigrant Aid Society (HIAS) has set down colorful descriptions of outlying Jewish settlements where he has met boyhood chums. In fiction and poetry there have been singers like Itzik Manger, a balladist almost unique in modern literature; sonneteers like David Kenigsberg, J. L. Kaluschiner, and L. Kussman; and the author of rondos and villanelles, Aaron Leyeles. Dantesque in content is Isaac Kacenelson's epic of a "murdered people," written while he was approaching his end in the gas chambers. Whether we seek classicism, romanticism, realism, symbolism, impressionism, expressionism, or even decadence and surrealism, we can find adequate examples of each in Yiddish writings, both prose and poetry.

In addition to Asch, the chief novelists in the second quarter of the 20th century have been: (United States) Joseph Opatoshu, Zalmen Schneour, Israel Singer, Leon Kobrin, Isaac Raboy, Peretz Hirshbein, Borukh Glasman, and Boris Eppelbaum; (Poland) M. Burshtin, S. Horontshik, and Z. Segalowitz; (USSR) David Bergelson and der Nister (Froyim Kahano-vitch). The novelette has been employed by Lamed Shapiro, Jonah Rosenfeld, and S. Miller. The most important plays in Yiddish are: Isaac L. Peretz's *Old Market Place at Night*; Shloime Ansky's *Dybbuk*; Jacob Gordin's *God, Man and Devil*; Asch's *God of Revenge*; Hirshbein's *Haunted Inn*; David Pinski's *Treasure and Family Tzvi*; H. Leivick's *Golem and Rags*; Singer's *Yoshe Kalb* and *Brothers Ashkenazi* (both dramatized and directed by Maurice Schwartz); and Leon Kobrin's *Yankel Boile* (Country Swain). Ossip Dymow, H. Sackler, and F. Rimko have also written many outstand-

ing plays, and Sholem Aleichem's dramatizations have had varied success.

The galaxy of historians, social philosophers, essayists, feuilletonists, philologists, bibliographers, literary critics, and biographers is too large to list. The cultural movement as a whole, however, was largely inspired by two men. One was the philosopher, Khayim Zhitlowsky (1865-1943), who, through his varied socio-political affiliations, dominated at one time or another almost every radical faction among New York Jewry. The other was Ber Borochov (1881-1917), who, though he died at the early age of 36, left substantial contributions to social theory and Yiddish philology and literature. Borochov has been regarded by the Zionist labor group as its spiritual leader. The Jewish cultural movement in general may be said to derive much of its strength and faith, on the literary side, from I. L. Peretz; and on the publicistic and theoretical sides from Zhitlowsky.

Equity, the Chief Motif.—Yiddish literature has always stressed moral values and social content. Its earlier writers were compelled to resort to allegory and symbolism to evade the Russian censor, and there was more than one confiscation. Nearly all Yiddish writers of the past generation were inoculated with revolutionary ideas, and the radical impetus still sways much of the literature, except for that part which is inspired by religion and reflects the social exhortations of the Prophets. Social justice is the keynote of Yiddish literature.

Yiddish writers have always reflected in their works something of the atmosphere of their respective countries. The American scene is portrayed in the Yiddish literature of the United States, the Russian atmosphere in the Soviet writings, and the Latin American panorama in the books and journals published in Brazil, Uruguay, Cuba, Chile, Argentina, and Mexico. The latter two countries, together with Canada, represent three new Yiddish centers. Birobidzhan, in the Soviet Far East, has become a region where Yiddish is the official language and is obligatory even in non-Jewish schools.

In 1938, about 400 Yiddish newspapers and journals were circulating throughout the various countries of the world. World War II changed the situation, especially in Poland, which had been a beehive of Yiddish activity. But wherever Jewish survivors reached a haven, even in far-off Uzbekistan and Shanghai, they succeeded in rehabilitating themselves culturally with amazing rapidity. An issue of the bulky quarterly, *Di Goldene Keyt* (Tel Aviv), *Yiddische Kultur* (New York), *Der Shpigl* (Buenos Aires), or *Kiyoun* (Paris) may contain contributions from writers in Tel Aviv, Shanghai, Melbourne, London, Lodz, Johannesburg, and Buenos Aires. In 1950, Yiddish literature, for undetermined reasons, appeared to have been liquidated in the USSR, with the exception of the Jewish Autonomous Region of Birobidzhan.

In 1890, Yiddish was a small, obscure literature which consisted largely of brochures and fascicles. Since then it has developed hundreds of writers, scores of them with a dozen or more bound volumes to their credit. At the turn of the century, only a small number of Yiddish books had been translated into other languages. By 1950 over a thousand individual volumes had been translated from the Yiddish into scores of other languages. In the Soviet Union alone,

between 1935 and 1945, more than 3.25 million copies of Sholem Aleichem's books were published in 240 editions and a score of languages. Asch's works have been best-sellers in English for many years. Courses on Yiddish literature are today offered in several non-Jewish educational institutions. Despite the extermination of hundreds of Yiddish writers by the Nazis, many others survived to carry forward the Yiddish literary tradition.

Remarkable in its origin, significant in its content, and unique in its history, Yiddish literature demonstrates the possibility of unity in territorial multiplicity. Radiating cosmopolitanism wherever it circulates, it has added leaven to, and formed part of, the general national literature of the particular country in which it flourishes.

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14. NATIONALISM. Nationalism arose as a powerful force in modern European history during and after the French Revolution. Jewish nationalism appeared in the last decades of the 19th century—both as an offshoot of the general nationalistic trend in Europe and as the result of a number of developments in Jewish life.

The struggle of the Jews for equal rights in the 18th and 19th centuries was only partly successful. Though the Jews of western Europe did attain political emancipation, those of eastern Europe had virtually no civil rights up to the end of World War I. Even in the Western nations, however, discriminations of various kinds remained in force. Thus, in almost all of Europe, Jews were regarded as a minority, a separate nationality of particular religious or "racial" character.

Modern industrialization considerably modified the occupational structure of the Jews, particularly in eastern Europe. Many Jewish petty traders, innkeepers, and artisans became factory workers. A few took to farming, while the younger people entered the liberal professions. These economic developments, however, often stopped halfway. The agricultural colonization projects of Austrian Emperor Joseph II in Galicia, and those of the Russian czars in southern Russia, never fully materialized. In Russia, employment of Jews in factories did not make headway, in part, because of the influx of landless peasants into the cities after the emancipation of the Russian serfs in 1861. The restrictions imposed on Jews by the Russian bureaucracy with regard to high school and university studies, increasingly barred them from professional life. The Pale of Settlement, where the bulk of the

Jewish population in Russia was segregated, became overcrowded, producing growing economic misery, deterioration of health, and moral depression. The Russian government itself constituted a major anti-Semitic force by pursuing repressive policies and instigating pogroms.

The first mass pogroms, which occurred in 1881 and 1882, opened the eyes of the intelligentsia and other groups among the Russian Jews. Realizing the hopelessness of the Jewish position in Russia, they sought a solution in a Jewish territory outside Europe, where Jews could live as a nation. Many favored Palestine for the establishment of a Jewish commonwealth. Smaller groups set out for the United States, where they attempted to build up Jewish rural colonies. A few followed the call of Baron Maurice de Hirsch to settle as agriculturalists in Argentina.

The back-to-the-soil movement as a prerequisite to a normal national life was a common feature in the outlook of the Palestine group and the "territorialists." The former joined the Zionist movement, which arose under the impact of anti-Semitism developing in Germany, Austria, and France, simultaneously with the anti-Jewish programs of the governments of Russia and Rumania. Those who favored a Jewish territory other than Palestine, set up various territorialist organizations, or explored countries for settlement without achieving practical results.

Diaspora Nationalism.—Side by side with the nationalism aimed at establishing a Jewish state on a territory of its own, there arose at the end of the 19th century another trend of Jewish nationalism which asserted that Jews were a nation even if scattered as minorities among other peoples. The protagonists of this Jewish cultural nationalism, known as Diaspora nationalism or national autonomy, believed that the Jews possessed national self-consciousness and a rich culture of their own. This heritage provided them with the right and the means of carrying on a national life, without obligations to become assimilated into other national groups.

The doctrine of personal national autonomy, which took root in the minds of some Jewish intellectuals, was advanced at the turn of the century by Karl Renner, an outstanding leader of Austrian socialism. According to Renner's conception, nationality can be assumed by a community of individuals speaking a common language and possessing common cultural, economic, and political interests. National affiliation is, therefore, not a territorial matter, but primarily a personal matter of individuals bound together by the same language and culture.

One of the pioneers of national autonomy for the Jews in Russia and Austria was Khayim Zhitlowsky (1865-1943), who attempted to synthesize this theory with socialism in an effort to gain support among Jewish and non-Jewish Socialists. National affiliation meant to him a community of interests of a group of individuals bound together by an effort to cope with cultural problems in a specific manner. Such forces molded the Jews into a separate nationality with a legitimate claim for national rights in the countries where they lived. Zhitlowsky rejected the idea of a territorial concentration of Jews through mass emigration from countries of their origin.

The historian, Simon M. Dubnow (1860-1941), advanced his doctrine of Jewish national

autonomy in a series of essays, *Letters Concerning Ancient and Modern Judaism* (1897 to 1902). Jewish nationalism, according to Dubnow, is not decided by the circumstance of residing in a separate territory, nor by membership in a given "race," nor even by some common interests of individual Jews. It is based upon common cultural ideals and common efforts to accumulate spiritual values. The determining factor is the wish for survival of Jews as a spiritual-cultural community. After the Roman conquest of the Jewish state in Palestine, there emerged, in the course of history, Jewish national-cultural centers which created spiritual values indispensable for the preservation of national self-consciousness. Among these centers were those of Palestine, Babylon, Spain, southern France, northern France, Germany, Poland, and Russia. Realizing that the Jewish position in Europe was deteriorating, Dubnow foresaw a mass transplantation of Russian Jewry to America (which he viewed as eminently suitable for the establishment of a Jewish center), in addition to a center "in Jewish Palestine of the future." Jewish life in previous Jewish centers had developed on an autonomous basis, both in the spiritual and cultural sphere, and in the social and economic field. Dubnow, however, insisted upon the secularization of Jewish autonomy, which was once permeated by rigid religious tradition.

The idea of national autonomy gained a passionate champion in Austria, where the author, Nathan Birnbaum (1868-1937), projected the concept that, contrary to the Zionist philosophy, Jewish nationalism, or "Pan-Judaism," is absolutely feasible for the Jews inside the Diaspora. He held the view that national and cultural autonomy should be made secure in countries with compact Jewish populations. The national organization of Jews in those countries would enhance their political emancipation and make assimilation impossible, contrary to the trend of assimilation which had followed the political emancipation of Jews in western Europe.

Zionists at first disagreed with the view that Jewish national rights were desirable as long as Jews lived in the Diaspora. However, a small group of Russian Zionist Socialists, also called the Renaissance group, formed an exception. According to this group's doctrine of national rights, first pronounced in 1904, each nationality of the Russian Empire, including the Jewish, was to achieve the status of a juridical and administrative unit, with a parliament, or *seym*, for the direction of all matters pertaining to that nationality. The Renaissance group considered that a national Jewish parliament and its various agencies would be the proper preparatory stage for future settlement in a national Jewish territory.

This concept of national autonomy was at first viewed with apprehension among the Jewish Socialists in the Jewish Social Democratic Party, called the Bund (founded in 1897). It won recognition, however, thanks to the efforts of Vladimir Medem, one of the most popular leaders of the Bund. In Medem's view, a nationality presented "the totality of all individuals who belong to a certain historic-cultural group, independent of the fact that they live in different territories." Each nationality would, therefore, be entitled to direct its cultural life autonomously through its own agencies.

The issue of Jewish national autonomy

emerged as a mass movement in the years between 1904 and 1907. During this period Russia lived through its first revolution, and Austrian parliamentary life became democratized by general suffrage. The idea of national rights took hold of the middle classes as well as the labor masses.

In March 1905, Jewish representatives of 32 towns, comprising mostly middle-class elements, met in Vilna and established there a League for the Attainment of Equal Rights for the Jewish People in Russia. The league's program included demands for "civil, political, and national rights," including communal self-government, and freedom of language and education. Composed of both nationalists and "assimilationists," however, the league could not long remain effective. The Zionists, who formed the strongest group among the nationalists, formulated in November 1906 at Helsingfors, their own program for "the recognition of a Jewish nationality with the right of self-government in all affairs of Jewish (national) life in Russia," such as education, health, emigration, mutual aid, and religion.

The Helsingfors platform marked a significant departure of the Russian Zionists from their former negative attitude toward national Jewish rights in the countries of the dispersion. This change was due to disappointment among Zionists over the delay in attaining a charter in Palestine, as well as the growing claims for national rights by vast groups of the Jewish population.

While some of the Zionist leaders accepted the Helsingfors program as an instrument for promoting Jewish nationalism in Russia, others viewed it only as a preliminary stage to the chief aim of creating a Jewish commonwealth in Palestine. For that reason, the nationalists under Dubnow's leadership decided to found, in December 1906, the People's Party, whose program of national autonomy was similar in many respects to that adopted by the Zionists at Helsingfors.

Among the socialist parties, the Bund had included in its program of 1905, in addition to a demand for equal political status, claims for the use of Yiddish in juridical and administrative matters, and the transfer of Jewish cultural affairs to autonomous Jewish organs. The Jewish Social Democratic Labor Party (Poale Zion) also committed itself to the fight for Jewish nationhood in Russia, to be waged simultaneously with efforts toward obtaining a commonwealth in Palestine. This view was not shared by the Zionist Labor Socialist Party, another group of Zionist Socialists rejecting the idea of national autonomy in the countries of the dispersion. These Zionist Socialists held that Jewish nationality could develop only in Palestine.

In multinational Austria, the spokesmen for Jewish nationalism in 1905-1907 advocated universal suffrage and the recognition of Jewish nationality on an equal footing with other nationalities. The Austrian Zionists formed the Jewish National Party; the anti-Zionist nationalists united in the Jewish People's Association. The Jewish Social Democratic Party in Galicia (named the Galician Bund), as well as the Poale Zion Party agitated for national rights among the Jewish workers. The first universal election to the Austrian Parliament, in 1907, witnessed a bitter struggle between the Jewish nationalist and antinationalist candidates in Galicia, where the bulk of the Austrian Jews lived. Four na-

tionalist deputies were elected, who formed the "Jewish Club."

Jewish Nationalism after World War I.—During World War I, which witnessed intensification of nationalism throughout Europe, Jewish nationalists, both in the belligerent and neutral countries, continued to elaborate their programs and prepare for their realization under postwar conditions. In the United States, the American Jewish Congress was created in 1916. Its purpose was to secure, in addition to equal political rights (where such were denied), "national rights . . . in countries where such rights are conferred upon the various peoples residing there." Similar demands were made during World War I by various groups in Holland and Switzerland, and by the Copenhagen office of the Zionist organization. The Jews of Germany and Austria set up committees, or associations, for the defense of the rights of Jews in the Russian provinces occupied by the Central Powers, and also for safeguarding their own rights at the forthcoming peace conference.

The Russian Revolution of March 1917 saw a vigorous resurgence of the movement for Jewish national rights. Virtually all Russian Jewish parties agreed to call a congress which would state the fundamentals of Jewish self-government in Russia, determine the safeguards of a Jewish minority, and consider steps for guaranteeing Jewish national rights in an independent Poland, in Palestine, and in Rumania. Elections to the congress were held in the winter of 1917-1918, but the Bolsheviks, who had in the meantime assumed power, prohibited the congress. The delegates then formed a Jewish National Council, which elaborated plans for a federation of Jewish communities. With the firm establishment of the Soviet regime, however, the Jewish problem in Russia assumed a different aspect. The movement for Jewish national rights, as given expression by the various Zionist and Zionist Socialist groups, was regarded as bourgeois by the Bolsheviks and came to an abrupt end.

The Central Rada of the Ukraine, which declared its independence after the March Revolution of 1917, issued in January 1918 a Statute of Personal Autonomy in the Ukrainian People's Republic, to be applied to all national minorities, including the Jewish. A Jewish National Council, as the supreme body of the autonomous communities, functioned for a short period, and a minister for Jewish affairs sat in the Cabinet. Civil war soon broke out, however, and a statute which had been hailed as an achievement of national autonomy remained a dead issue.

The Lithuanian Republic established in 1919 a Ministry for Jewish Affairs, and in March 1920 granted the Jewish population autonomous status in educational and cultural matters. The communities formed a Jewish National Council, which was accorded *de facto* recognition by the government. In Poland, a Jewish National Council was organized in 1919. Similar bodies were set up in 1918 and 1919 in Rumania, German Austria, Bucovina, Bessarabia, Hungary, Greece, and Turkey; and all demanded national rights.

These demands met with the disapproval, even the stern opposition, of some Jewish groups in Great Britain, France, and the United States, which were afraid that realization of the demands would affect the achievements of emancipation. The American Jewish Committee, in a statement

addressed to President Woodrow Wilson at the Paris Peace Conference, protested against the principle of "a national home for the Jewish People in Palestine," though it welcomed the establishment of a home for Jews in Palestine. Similar attitudes were assumed with regard to Jewish national rights by the League of British Jews and the Alliance Israélite Universelle, the leading organization of French Jewry.

At the Paris Peace Conference, the delegates of the American and west European communities were faced with a solid front of the east European representatives who advocated the recognition of minorities as national entities. Differences between the two blocs were ironed out, and a Committee of Jewish Delegations was formed, offering a fairly united Jewish representation. On May 10, 1919, this committee submitted to the peace conference, in the name of nine million Jews, a set of "clauses intended for the protection of the several national, religious, racial, and linguistic minorities" in the countries of east and central Europe. These clauses were, in one or another phrasing, included in the different peace treaties as minority rights.

The minorities treaties were acclaimed by various Jewish communities, but the governments involved failed to honor them, as the history of the interwar period showed. The rights of Jews to use their mother tongue in conducting public affairs and obtain government cooperation in building up their educational system were disregarded, except in Czechoslovakia, Bulgaria, and Yugoslavia. In addition, the machinery instituted by the League of Nations for the protection of minorities proved unsatisfactory. Complaints submitted to the League by minorities were considered by the governments in question as traitorous acts. Thus, the whole work undertaken at Versailles for the protection of Jewish minorities and the free development of their national rights ended in a virtual fiasco.

World War II resulted in the annihilation of some six million Jews, mainly of east and central Europe. For the survivors, the problem of individual as well as group rights remained. Zionists, though insisting on mass emigration to Palestine, realized that there would remain Jews in Europe who need safeguards to carry on their cultural and national life. The Bund, which rejected the idea of Jewish mass emigration from Europe, continued its claims for cultural autonomy and state support of Yiddish schools. The orthodox Agudath Israel sought autonomous Jewish community organizations with jurisdiction over religious, educational, and social matters. Among other Jewish groups, there persisted an antinationalist attitude opposed to the idea of national rights and favoring the adoption of an international bill of rights to protect all individuals without distinction of color, race, or creed. However, it was to the new State of Israel, established in 1948 and growing rapidly as a significant new Jewish center, that most of the surviving European Jews turned who sought fulfillment of nationalist hopes.

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15. ANTI-SEMITISM. The modern term anti-Semitism, for want of a better one, has been applied to the hostility to Jews by non-Jews, a hostility evident from ancient times to the modern era. As a term it is misleading, for it is actually meant to represent an agitation directed against one part of the original Semitic group, the Jews. It is also anachronistic, because the Jews have been a part of the Western World for thousands of years. During that time Jewish society was conditioned, modified, and transformed by Western influences; and, conversely, Western society was, through Christianity, basically influenced by Jewish religion and ethics. Thus, anti-Semitism is not only irrational but morally and spiritually untenable.

As a mass movement, anti-Semitism is more synonymous with hatred of the Jews as a "race" than as a religious community. But even restricted sociological or psychological phases of this prejudice may be termed anti-Semitism. Some students have tried to limit its meaning to the antagonism felt by non-Jews towards the political and social equality of Jews, resulting from the Jewish emancipation. In the light of anti-Semitism's long history, however, and the variety of forms it has assumed, it cannot be so restricted. The character of anti-Semitism changes from age to age; it must be examined in relation to a given area or era, in terms of the peculiar forces operating in a specific society. Anti-Semitism may have one set of connotations to the practicing anti-Semite, another to the object of his aggression. Even to the objective social scientist, anti-Semitism is often a baffling phenomenon, inasmuch as it does not, by reason of its age, persistence, extensiveness, and intensity, seem to resemble other forms of group hostility.

Anti-Semitism's History.—*The Ancient World.*—Anti-Semitism, in the modern sense, did not exist in the ancient world. The Jews, like the Egyptians, Syrians, Greeks, Romans, and particularly the early Christians, were at times the objects of animosity. Generally speaking, the national and religious aspirations of the Jews came into conflict with those denationalizing tendencies of the ancient imperial systems, to which, in the end, they became adjusted. The Hellenization of large masses of Jews scattered in the Diaspora, and their socio-economic transformation, eventually disrupted the stubborn unity of the Jewish people. If the Jews were unique in antiquity, apart from the quality of their religion and culture, it was because they were everywhere connected with a central national group with which they maintained relations.

The rapid growth of the Diaspora favored an anti-Jewish hostility in the Hellenistic East, particularly in cities like Alexandria and Antioch, where the voluntary segregation and the strong communal organization of the Jews aroused fear and contempt. The first real pogrom took place in Egypt in 38 A.D. In the Graeco-Roman world, the character of the Jewish people and of Judaism became a subject of passionate controversy, and the success of Jewish moral propaganda the cause of both conversions and resentment. As a consequence, the Jews became the targets of literary Jew-baiting. Apion asked how the Jews, whose cult had no images, could be legitimate citizens of Alexandria when they repudiated the city's gods. He also adduced the lie of ritual murder, a canard which was to plague the early Christians. Tacitus accused the Jews of alienating their proselytes from imperial loyalties, and Seneca represented the repose of the Jewish Sabbath as congenital idleness. Jewish observance of circumcision and dietary laws appeared to pagans as gross superstition. It would seem that much of the ancient hostility to Jews was based on the feeling that their distinctiveness of creed and their aloofness from sophisticated custom was the studied insult of a barbarous minority to a world of high refinement. Thus, the anti-Jewishness of the ancient world appeared primarily as a literary and folkloristic xenophobia rather than as a mass aggression. "From the disparagement of Jewish 'contribution to civilization,'" observes Salo W. Baron, "to the discovery of an offensive odor emanating from Jewish bodies; from cheap witticisms about circumcision and abstinence from pork to allegations of 'atheism' or donkey worship, almost every note in the cacophony of medieval and modern anti-Semitism was sounded by the chorus of ancient writers."

Medieval Anti-Semitism.—The Jews, for the most part, were excluded from medieval Christian culture and forced to retreat behind ghetto walls. The anti-Semitism of the Middle Ages had one major root in ecclesiastical policy, while another gradually developed on economic grounds. Although there is no evidence that the founder of Christianity wished to see the Jewish people destroyed or degraded, victorious Christendom, through canonical and temporal action, reduced the Jews to a pariah people and evolved in the popular imagination the unbending conception of the Jew as something less than a human being.

To the medieval Christian world, Judaism was not a different religion, but a distortion of the only true religion. Its followers were neither conventional heretics nor pagans, but a people who, having witnessed, as it were, the Christian revelation at its very fountainhead, yet appeared as deliberate unbelievers. Hence, of what crimes were these Jews not capable, what inherent depths of depravity did they not possess, to be so unyielding to the only universal and apparent truth? What illuminates most sharply the medieval conception of the Jew is the conviction of that time that the Jew was (in the words of Cecil Roth) "the only exception which qualified the universal homogeneity of faith." Thus considered, the Jews could, without great difficulty, be maligned as "Christ-killers," "ritual murderers," desecrators of the Host, the cause of the Black Death in the 14th century, and the very "children of the Devil." Europe was later to match in fury, even to excel

in sheer quantity and certainly in scientific efficiency, all the persecutions of the Middle Ages. But only in the medieval period were they so spontaneous, folkloristic, persistent, and universal.

In the 9th century, Jews still furnished an outstanding commercial class. From the close of the Crusades, however, the separation of the Jews from the Christian world was complete, except when they were temporarily tolerated as convenient instruments, as in Italy, where they had status at least equal with the burghers. In the early Middle Ages, Jews had been active in agriculture, trades, and crafts, playing no role in credit and finance. Later they found themselves excluded from all guild-organized Christian monopolies, and subsequently suffered economic displacement from the rising and competitive Christian mercantile classes. Nothing remained but to make of the Jews the commodity of princes and governments, either as moneylenders or farmers of taxes and customs. When the odium of these functions had sufficiently festered in the oppressed classes, the Jews could be cheaply sacrificed with a pogrom or an expulsion, thus channeling resentment away from the oppressing governments. Moreover, the expelled Jew (banished from England in 1290, from France in 1306, from German, Austrian, and Spanish cities in the 14th and 15th centuries) often left behind certain valuable assets, including his deserted property, bonds, and list of creditors. The Jew thus served a necessary, if unpleasant, function in the economic life of the medieval world.

Modern Anti-Semitism.—The Jews entered the modern period stripped of civil rights and bound by economic restrictions. Between Martin Luther's violent disappointment at their refusal to be converted to Lutheranism, and the fury of the Counter Reformation, anti-Semitism began to gather new momentum. This, however, abated wherever in central and western Europe reformers and humanists, like Johann Reuchlin and others, permeated the intellectual scene with a philo-Semitic attitude. The 17th century produced violent contrasts in Europe. On the one hand, there was a general diminution of insecurity for Jews in the west, even a new Jewish feeling in Puritan England. On the other hand, in Poland, the infamous anti-Semitic decade of 1648-1658 produced the bloody revolt by Chmielnicki's Cossacks. Though the mass of Jewry in the 17th century consisted of petty tradesmen, they included other economically valuable members who, like some of those driven from Spain and Portugal, vitalized the mercantile life of Amsterdam, Antwerp, Hamburg, Leghorn, and Bordeaux. In the states which tolerated them, Jews could still use those family-inherited cosmopolitan connections by which they had survived the worst of medieval migrations, again to promote the exchange of goods in Europe.

With the spread of revolutionary ideals from France, the growth of urbanization and urban trade, and the extension to Jews of human rights, the stages of their political emancipation in the west began. In the resultant diffusion of economic opportunity and liberalism, Jews were gradually absorbed into the respective national economies. They were permitted to enter handicrafts, trade at fairs, settle in the cities, build factories, promote exports, rise from peddling

to storekeeping, and engage in the arts and professions. Where economic opportunity was artificially restricted and the hostile pressures remained too high, Jews participated in the domestic shifts of the population when possible, or in overseas migration. During 1889-1914, for example, they constituted 40.7 per cent of the emigrants from Russia. The normal growth of a commercial and professional middle class in those eastern European countries which had been lacking or weak in one (including Poland, where the mercantile and artisan rivalry with Jews went back for centuries), resulted in an economic conflict with urbanized Jews and in the modern upsurge of anti-Semitic fascism.

Having surrendered their internal social autonomy and many of their traditional customs when they were emancipated, the Jews were often made to feel that the price was too high. In Germany, Jews saw their emancipation mocked by the rise of a contagious anti-Semitism based on theories of nationalism and race, and destined to culminate in National Socialism. Dramatized by the Dreyfus Affair, anti-Semitism in France fed on a dangerous cleavage of interests between social classes. In the eastern countries, where anti-Semitism was not only chronic but acute, restrictions of domicile and occupation were the normal conditions. The Pahlen commission of 1888 had found 650 exceptional laws directed against the Jews of Russia, and 90 per cent of the Jewish population leading hand-to-mouth existence. The catastrophe of World War I and the anti-Semitic excesses of the Russian counter-revolutionary forces were devastating. The unprecedented and generous fruits of the successful revolution, which officially abolished anti-Semitism, coincided, however, with internal developments which sealed off intercourse between Russian and other Jews and tied up the richest current of Jewish national addition. With the widespread success of German anti-Semitism before and during World War II, the extermination of six million Jews, and the economic impoverishment of most Jewish survivors in Europe, it seemed that the era of modern emancipation had resulted in a tragic failure.

Sociology of Anti-Semitism.—While no single cause can adequately explain the complex phenomenon of anti-Semitism, social analysts have generally adduced certain broad tendencies relevant to its rise in the modern world. The widespread weakening of belief in ethical norms and the cynicism concerning morality has favored the production of an amoral pattern of social behavior not inhospitable to the growth of prejudice. The mushrooming of nationalistic and pseudoscientific dogmas has made "race" into an obsession with some peoples of the world. The great social strains and economic dislocations of capitalist society have bred stresses and animosities of which the Jews are often made the bearers.

The terminology of anti-Semitism has varied from era to era according to the need at hand. Anti-Semitism was couched in religious terms when religious dogmas were dominant, and appeared in the guise of anthropological phraseology when race theories were evolved. Where capitalism was hated, Jews were labeled capitalist, which did not prevent their being called communistic when the anti-Semite chose to shift ground of attack. At almost all moments of

high social tension, political capital could be made out of anti-Semitic slogans and subterfuges. Social analysts have long observed the discrepancy between the anti-Semite's real and stated reasons for his hatred, and his characteristic disregard of logic and scientific facts. For their activities and propaganda, anti-Semites have traditionally seized upon and distorted certain historical conditions specific to the Jewish people.

A most common and obvious pretext for persecution has been the religious unity and uniformity of the Jew, as manifested in a body of special attitudes, sentiments, folkways, observances, and institutions. Though Jews made no fetish of race and banned intermarriage only on religious grounds, their concept of a "chosen people" has been widely misinterpreted as a Judeocentric view of history, or as a special election and a racial monopoly. The conditioning of a ghetto way of life, on the one hand, and of international family ties, on the other, have often made of the Jew an irritant to nationalizing majorities as well as to provincial communities, and have provoked anti-Semites to charges of "dualism of Jewish interest." The traditional minority status of the Jew has likewise kept him prey to suspicion, fear, and antipathy, giving the stereotyped Jew of the anti-Semitic legend the semblance of an "international problem."

As minority groups within their respective countries, Jews, whether pro- or anti-Zionist (excepting total assimilationists), have always felt that the identity of Jewish life must be preserved side by side with the integrity of their respective citizenships; and that this preservation of their tradition in no way diminishes their true citizenship, or conflicts with the concepts and practices of a democratic community. Some sectors of modern Jewish communities, however, have rejected the theory of Jewish "homelessness" and consequent Jewish nationalist aspirations, seeing in these concepts a danger to complete identification with their respective countries and anticipating suspicions of paradoxical allegiance.

Another source of anti-Semitism and of the anti-Semite's stock of arguments has been the long-standing marginal economic status of the Jews. An agricultural people originally (and again, to a degree, in modern Israel), the Jews were driven by dispersion and restrictions into handicrafts in the early Middle Ages. Guild monopolies later forced them out of the handicrafts into the lowliest manual labor or into commercial activities. Having pioneered in developing the commerce of Europe, Jews were once more ousted by municipal corporations, trade guilds, and ecclesiastical decrees. Excluded from the soil, the handicrafts, and legitimate commerce, the Jews were pushed into forming a society of peddlers, middlemen, and moneylenders, thus, incidentally, assisting in the general European transition from an economy of barter to one of finance. Invidious recognition of these services took shape in the indelible myths of "Shylock," of the "international financier," and of the "guileless Gentile."

The special economic status of Jews continued, to a modified degree, into modern times. Jews in the modern era, writes Mary Beard, "have done what they always had to do; namely, pioneering in certain fields and lands where others had not staked out claims. In the Middle

Ages, Jews lent money to the small businessman or turned to frontier lands disregarded by mightier Gentile usurers who dealt with kings and popes. Under Absolutism they became agents of the lesser courts, while Gentiles mastered the royal businesses of stronger monarchs. In modern times, finally, the Jews entered new industries, like the Rathenaus in the German electrical field, transformed old industries, or occupied certain neglected lands like Russia, Poland, and Austria."

The economic myths of anti-Semitism survived the emancipation period, even when the Jews, where permitted, engaged in normal middle-class activities. Conditioned by their historical experience and still concentrated in large cities, Jews were slow to arrive in fields of agriculture and modern industrial occupations. The bulk of Jewry was long contained in central and eastern Europe, where industrialization, which gave Jews an opportunity to rise to new economic positions, also prepared the way for a new, competing middle class of non-Jews. This new middle class strove to displace their Jewish competitors and eagerly turned the weapon of anti-Semitism to that end.

To those classes at the bottom of the social and economic scale—the debt-ridden peasants and impoverished urban workers—the Jews were held forth as the agent of all misery. As a conspicuous and vulnerable minority, the Jews thus provided an ideal scapegoat upon which the wrath of the aroused masses could be directed in times of economic crises. Czarist Russia frequently resorted to this inhuman strategy.

Psychology of the Anti-Semite.—The anti-Semite often shows an amazing readiness to believe, with an almost psychopathic obsession, precisely what is most unacceptable to the rational mind—for example, the absurd forgeries of the "Protocols of the Learned Elders of Zion." To the social psychologist, this predisposition indicates that the anti-Semite's hatred is not based upon a mere confusion in political or economic thinking. The anti-Semite, rather, is seeking satisfaction of a definite psychological need, the need of an outlet for certain hostile social attitudes having their source in specific economic, social, or personal frustrations. He requires a symbol for the displacement of his hostility and a self-defense against the sight of his own failure. While there is no inherent reason why the Jew should be the object of aggression, a combination of historical factors renders him the classic target. The anti-Semite's stereotype of the Jew thus takes shape, based upon the hater's distorted conception of differentiating "Jewish characteristics."

The anti-Semite displaces his aggression toward the Jew because he cannot overcome the feeling of guilt which results from consciously hating a member of his own group. He projects his own feared, despised, suppressed, and guilty attitudes upon a weaker object outside his group; he rationalizes by substituting consciously acceptable motives for true but censored ones. Anti-Semitism may thus be defined in psychological terms as "a displacement of aggression with a projection of guilt and a rationalization of motive." Under the stresses of modern society, frustration and anxiety are so widespread that anti-Semitism can easily and rapidly take on the proportions of a mass movement. This serves to shield from public scrutiny the real

underlying social disorder. Thus, anti-Semitism serves both as a satisfaction and a screen.

Modern Anti-Semitic Theories.—The era of political emancipation for the Jews saw the rise of a modern anti-Semitism assisted by the evolution of pseudoscientific dogmas about race. Whether Jews are a race in a strictly biological or anthropological sense is doubtful. Anthropologist Carleton S. Coon considers them only as a group "united biologically as is the average intermarrying social or geographical unit," with "racial peculiarities which serve to differentiate the majority of them anthropometrically from their non-Jewish compatriots and neighbors." Melville Jacobs, however, states that "there is no evidence for the existence of a distinctive Jewish blood or 'race,'" though "it will continue to be possible to identify many of the Jews on sight, just so long as many are forced to remain in their present web of economic and social exclusion and persecution."

Undoubtedly, many "Jewish peculiarities" are merely behavior patterns which have been evolved in the process of the Jew's efforts to survive in a persistently hostile environment. But regardless of whether Jewish attributes are caused environmentally or by heredity, it is true that Jews have been considered and treated as a race. This assumption has been one of the gravest factors in modern anti-Semitism, and the influence it has exercised on events cannot be overlooked. The medieval view of the Jews held that they were an unassimilable religious fraternity. Modern anti-Semitism, to the contrary, has portrayed the rapidly assimilating Jews not as a separatist body of nonconformists, but as an insidious citizenry and a corrupting ferment. From the implacable and organized intolerance of racial and "intellectual" anti-Semitism, the victims could no longer escape through baptism or the most adroit protective disguises. This form of anti-Semitism poisoned that era which the Jews called their emancipation, and became a powerful force in world affairs.

To the old classic charges based on the lie of ritual murder, or derived from ecclesiastical animosity and the hostility of reactionary political groups, new accusations were added in the 19th and 20th centuries. It was alleged that an inferior breed of migratory Jews was infiltrating central and western Europe from the east; that the Jews artfully concentrated in commerce and the professions, and in their materialistic drive to power managed somehow, within a single conscious and conniving unit, to be both capitalists and Marxists; that Jews lacked patriotism, were responsible for defeats in war, and promoted liberalism, revolution, artistic experimentalism, intellectualism, moral decadence, gross materialism, and spiritual pacifism.

In the struggle of European nationalisms and the social and economic crises between two world wars, anti-Semitism became the convenient center of convergence for many movements and motives. In the words of Salo W. Baron:

It included those who wanted the elimination of Jewish competition in the economic field; those who wished to destroy the Jews as capitalists; those seeking revenge on Jewish leaders of socialism; those who believe in racial purity, and the superiority of their own race over all others; those demagogues who detected in the excitation of popular anger against the Jews a means of personal aggrandizement; and those who sought to deflect popular resentment of their own misgovernment into other channels.

Indifferent to logic or proofs, heightened by economic depression and national humiliation, yet mitigated but little by prosperity or victory, anti-Semitism seemed to be clearly not so much the "Jewish problem" as a problem of the non-Jews and their societies.

Jewish Reactions to Anti-Semitism.—Until the 18th century, the relationship of Jewish society to the outside world was comparatively simple. The bulk of Jewry had a corporate character with duties and economic functions, but generally no rights freely derived from common citizenship, and few human satisfactions not limited or crushed by an oppressive environment. The emancipation which began in the 18th century not only ended the simplicity of the relationship between Jews and the outside world, but demanded new attitudes by Jews to their own group. The emancipation was based on an individualistic rather than a group basis, and arrived, moreover, in an era of developing and conflicting nationalisms. It was neither welcomed by the anti-Semites nor considered as an unmixed blessing by most Jews.

In general, the reaction of Jews to anti-Semitism took the form of increased ethnic and cultural self-consciousness. It also resulted in other types of responses ranging from self-assertion to self-effacement, even self-hatred. Great spiritual conflicts attended the Jews' efforts at adjustment. Finding that society rarely accepted them without reservations, Jews were often in general confusion as to what they were supposed to be, or do, to resolve "their" problem.

Emancipation had made a competition of ideas possible in Jewish society by exposing it to the surrounding secular forces and philosophies. Hence, there appeared a variety of proposed solutions deriving from movements then current in Europe, such as nationalism, international socialism, migrations to new territories, social humanism, cultural pluralism, and perfectionist theories of intersectarian reconciliation. As reactions to anti-Semitic pressure, the developing Jewish attitudes led, in effect, to what may generally be characterized as separatist or antiseparatist solutions.

A Jewish Homeland.—Although anti-Semitism was definitely a powerful catalyst of political Zionism, it cannot be regarded as its cause; for Zionism has distinct features of an irrepressible Jewish tradition. The viewpoint of Zionism toward modern anti-Semitism is that emancipation had liberated individual Jews but not the Jewish people, and that the abnormality of Jewish society ill derived chiefly from its permanent minority status everywhere. In that classical land of Jewish apologetics, Germany, the effort of Jews to become assimilated was not a success. Where assimilation was successful, as in socially and economically egalitarian Soviet Russia, the survival impulse of Jewish identity, along its traditional and historical lines, met with obstacles. Where attempts were made to treat Jews according to the principle of safeguarding national minorities, the result was generally a failure in practice. Hence, Zionism held that it was necessary to separate the Jews physically, that is to say geographically and politically, from their hostile environment by producing a center of "normalized" Jewish life in Palestine. This, it was believed, would also relieve the anti-Semitic pressure on Jewish society in the Diaspora.

Assimilation.—The viewpoint at the opposite

extreme from Zionism maintained that under conditions of universal fellowship the Jewish communities were capable of assimilation, linguistically and biologically. The assimilationists stressed that any differences which served to identify Jews were due to socio-economic exclusions and other conditioning factors. Since changes in social relationships had the effect of obliterating differences, the Jewish minority could solve its problem by sacrificing its identity.

As to this theory, however, even if the act of total absorption were indeed morally or intellectually acceptable, the practical means were lacking. There was not yet a specific therapy for existing anti-Semitism, nor the necessary mutual desire for large-scale intermarriage. Feasible perhaps on an individual basis, any wholesale absorption would result only in distinct groups of "new Christians" or secular but still distinguishable "post-Judaic" communities.

Secular Nationalism.—Still another view discounted the existence of a "Jewish race" for lack of scientific evidence, but pointed to a Jewish community of interests, the Jewish religion, the historical continuity of cultural forms, and other nonbiological factors. Solutions based on this outlook sought the survival of one or more traditional possessions, and offered no objections to the loss of orthodox dogmas and ethnological or national patterns.

Under the influence of secular philosophy, there were Jewish movements which advocated a socio-economic change in the structure of Jewish society and aimed at the creation of a bicultural or multicultural Jew. Jewish secular nationalism either sought to obtain recognition for Jews as a minority nationality (as in the eastern European multinational states), or, as in Zionism, concentrated on a single territorial objective, Palestine. The solution by which it was proposed to settle compact masses of Jews on favorable new territories, regardless of historical ties and sentiment, found few or no available areas for this purpose. Except for Birobidzhan in Soviet Russia, which drew on some of the ideas inherent in territorialism and Zionism, these attempts resulted merely in small, philanthropic experiments of little permanent significance.

Other Solutions.—At opposite ideological poles on concepts of Jewish adjustment were the influences of extreme religious orthodoxy and international socialism, with their contrasting adherence to theories of divine salvation or social revolution. Still other theorists, faced with the complexity of explaining and removing anti-Semitism, regarded the Jewish problem as incapable of facile solution, but maintained that, even without a specific therapy, latent anti-Semitism could be prevented from becoming overt in the democracies. Many Jews who assigned an historical and cultural value to their heritage, and whose survival impulse continued strong despite anti-Semitism, found that they could achieve a balance between absorption and isolation in the American-type democracy embracing many different cultural and religious groups.

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16. ZIONISM. Zionism, during the half century preceding the emergence of the State of Israel in 1948, was the organized political effort to establish Jews in need of a homeland as an autonomous and self-governing people in Palestine. The movement had as its aim the development in Palestine of a secular and democratic society, based on a belief in the national and ethnic unity of the Jewish people, and inspired by the modern Hebrew renaissance in language, culture, and social and political ideas. At various stages preceding the proclamation of a Jewish state, Zionism sought this consummation by specific international sanctions, without prejudicing in any way the rights and political status of Jews in any other country, or the civil and religious rights and general welfare of existing non-Jewish communities in Palestine. The terms of the Basle Program, as formulated in 1897 by the First Zionist Congress, were as follows:

Zionism strives to create for the Jewish people a Home in Palestine secured by public law. The Congress contemplates the following means to the attainment of this end: (1) The promotion on suitable lines of the colonization of Palestine by Jewish agricultural and industrial workers. (2) The organization and binding together of the whole of Jewry by means of appropriate institutions, local and international, in accordance with the laws of each country. (3) The strengthening and fostering of Jewish national sentiment and consciousness. (4) Preparatory steps toward obtaining Government consent, where necessary to the attainment of the aim of Zionism.

In the terminology characteristic of the movement's literature for a half century, the justification of Zionism has been expressed in the following words: "The homeless and landless Jewish people, which is compelled to migrate, strives to overcome its abnormal political, economic, and spiritual condition by re-establishing itself in its historic homeland through an uninterrupted immigration and settlement, and by recreating in Eretz Israel (Land of Israel) its national life with all the essential features of a people's national existence."

Modern political Zionism was profoundly affected and greatly accelerated, but not basically caused by anti-Semitism. It has, nevertheless, been so mere philanthropic movement for the relief of Jews in distress; nor has it been a mere movement for any promiscuous territorial solution of the Jewish problem, or a movement which might have been satisfied with large-scale colonization elsewhere than in historical Palestine. Its modern phase originating in the 19th century among the Jewish masses of eastern and central Europe, Zionism amalgamated a cultural renaissance with a national political movement rooted in a complex of ideas, emotions, backgrounds, and practical necessities. Directed toward stirring Jewish ethnic loyalty, nationalist sensibility, cultural vigor, and revolutionary social reform, secular political Zionism offered its followers the theory of an escape from typical Jewish abnormal-

ities of status, both economic and psychological. It appealed even to Jews in countries where their lives and liberties were comparatively secure, to say nothing of those Jews in countries where physical danger and chronic social-economic distress was their lot.

Political Zionism evolved in a climate of opinion which held that Jewish political emancipation had not solved the Jewish problem; that the Jews had not, in the fullest sense, been admitted into their respective societies; and that they would always constitute a minority group in the more unfavorable countries of the world. For these reasons the major principle of Zionism asserted the "historic right" of the Jewish people to build its national home in Palestine and the moral obligation to recover its wastes and unsettled places.

According to typical Zionist thought, "not only the settlers as individuals, but the collective body as a people, when it has once more put into the country a part of its national wealth—men, capital, cultural institutions—has again in the country its national home, and has the right to extend and to complete its home up to the limit of its capacity." For those Jews who saw Zionism revive Jewish creative powers for colonization quite unsurpassed in the century, build social institutions, and culminate in self-government, the movement seemed to be the logical consequence of prophecy and tradition in past Jewish history. The United Nation's decision on the partition of Palestine (Nov. 29, 1947), the Jewish provisional government's proclamation of the State of Israel (May 14, 1948), and the subsequent diplomatic recognition accorded the new state by both great and small powers, were, in effect, an acknowledgment of the organic maturity and political reality of a half century of Zionism.

Origin and Development of the Zionist Idea.—The idea of a national future, so lyrically invested in Jewish prophecy, liturgy, and secular literature, was never wholly uprooted. In the centuries of dispersion, it survived as more than a mere nostalgia for Zion or an ethnic memory-pattern of Palestine. The vitality of the Zionist idea was in direct proportion to the extent of Jewish exclusion from the privileges and security of the general community. It was repressed in unsuccessful rebellions, like that of Bar Cochba (Kokba) in 132–135 A.D. It rose from the ashes of one Messianic movement after another, as in the cases of the pseudo redeemers, David Alroy (c.1160 A.D.) and Sabbatai Zevi (1626–1676). Its devotees sought to hasten the Messianic era through the cabalistic devices of fast and prayer. Beginning with the late 17th century, however, it progressed from medieval pieties to mundane projects when the concept of a large-scale return to Palestine took shape in many utopian and curiously ingenious schemes, petitions, memoranda, letters, and pamphlets.

Earliest approximations of modern Zionist attitudes are to be found in the views of the distinguished 17th century Amsterdam rabbi, Manasseh ben Israel, who so eloquently pleaded the cause of Jewish readmission into England; and in the expressions of Puritan friends of the Jews who welcomed them back as an ancient "nation." Similar attitudes were held by Christian pioneers of religious liberty in many lands; were expressed in the idea of doing "national justice" to the Jews held by Christian writers on the restoration of Israel; or formed the basis of many schemes to

establish autonomous Jewish colonies. The emotional attachment of Western peoples to the Bible and Biblical prophecy generated an embryonic political Zionist idea in the minds of many intellectuals, from the philo-Semitic pamphleteers of the 17th century to such eminent 19th century personages as the Earl of Shaftesbury, the English mystic Laurence Oliphant, and the humanistic novelist George Eliot. Dislodged from any articular reference to Jews, the Zionist idea furnished nonconformist Christian vocabulary and Western poetic speech with enduring imaginative terms like "The Promised Land" and "Zion," or as expressed in the poetic wish of William Blake that "Jerusalem" be built "In England's green and pleasant Land." The concept of a religious commonwealth after the Hebraic pattern affected the character and mode of Puritan colonization in America. Thus, the "Zionist" motif also took course quite apart from its specifically Jewish conception and use.

During his campaign in the east, Napoleon Bonaparte in 1799 issued a call to the Jews "to restore ancient Jerusalem." Though vague, fruitless, and only a military expedient, this summons nevertheless reflected in some measure the climate of contemporary European opinion. Napoleon's later convocation of a Great Sanhedrin of Jewish legislators failed to re-establish that ancient institution of government, yet succeeded in dramatizing modern recognition of a Jewish community of interests.

The secular and political Zionist idea of the late 19th century was thus anticipated in a combination of mystical and rational motives. Missionaries hoped for the conversion of Jews to Christianity as a precondition of their return. Enlightened philo-Semites saw in the restoration of Israel an act of collective justice to a persecuted people. To diplomats watching the fortunes of the troubled Near East, the resettlement of the Jews appeared as a possible medium for advancing their interests. To well-meaning philanthropists, the rebirth of a Jewish nation in Palestine was seen as an aid to the alleviatory colonization of Jewish emigrants.

Both within and without the Jewish communities of Europe, currents of thought and historical events were preparing Jews for the political idea of a Jewish restoration. Hasidism, a remarkable social-religious movement which began in the 18th century and expressed the revolt of the simple village Jew against the intellectualism, abbinism, and authority of the urban Jew, stirred the eastern masses into a new individualism, a more democratic pattern of living, enriched by static and folkloristic elements. Haskalah, the Jewish enlightenment movement which paralleled the secular and cosmopolitan development of the European Enlightenment, brought thousands of Jews out of the traditional community structure to a more secular outlook. It infused starved minds with fresh enthusiasms and set into motion competition of new and aggressive ideas. It accelerated a renaissance in culture and manners, revision of Judaism, and rich creations in Hebrew, Yiddish, and European literatures.

Coinciding with these stirring cultural and social developments was the progressive achievement, particularly in western Europe, of legal guarantees for the emancipation of the Jews as individual citizens. This trend, which further shattered the former corporate character of Jewish society, did not, however, evolve an equivalent

solution for assimilating whole masses of Jews deeply conscious of their ethnic unity and traditions. Precisely in eastern Europe, where the Jewish masses were most concentrated, their misery and humiliation greatest, and their ethnic consciousness strongest, did political and economic emancipation make little or no headway. However feasible Jewish assimilation or Europeanization proved in individual cases, it did not work out effectively on a mass scale, whether by coercion, as in eastern Europe, or by voluntary adaptation, as in the west. Jews who streamed into the new economic services and intellectual positions of an urbanized, industrialized, and capitalistic economy, only succeeded in giving anti-Semitism new forms of accusation and rationalization.

Secular political Zionism, however, was not a mere reaction to anti-Semitism. Antedating Zionism's political formulation at the end of the 19th century was the basic and widespread Jewish consciousness of an indissoluble connection with Palestine; indeed, experiments in Jewish colonization already existed. The European Enlightenment, liberalism, and the Jewish emancipation might possibly have retarded the development of acute Jewish nationalism, had these movements embraced more than a limited class of intellectuals or covered more than the limited areas of Western Jewish society. The persistent Zionist idea, nevertheless, would sooner or later have arisen in defensive or affirmative reaction to the continuing ethnic absorption, which the overwhelming majority of Jews did not favor as the price of liberalism. There is little doubt, however, that the gross hostilities of nationalism and anti-Semitism stirred both the secularized and unassimilated Jews to common political Zionist action; that the contemporary nationalist theories in Europe furnished Zionism with some organizational models and a fresh modern appeal; or that the imperialism which began to impinge on the Middle Eastern world shaped the historical background, though not the motive and practice, of Jewish colonization in Palestine.

Between 1880 and 1910 a considerable proportion of world Jewry was in feverish migratory flight from all types of oppression. The consequences of World War I were catastrophic enough for the Jewish communities, especially in the eastern countries of Europe. With World War II, the concentrated loss, under the German domination, of six million Jewish lives, a third of the whole Jewish people (and that Yiddish-speaking third which was perhaps closest to the creative sources of its folklore and civilization), the promise of a modern era of Jewish emancipation seemed to have received the final mark of bankruptcy in Europe, and the Zionist idea the severest test of historical validity.

Main Currents of Zionist Theory.—*Moses Hess.*—The first modern thinker to pose the Jewish question logically, in the context of nationalist movements set off by the French Revolution, was Moses Hess (1812-1875) in his book *Rom und Jerusalem* (1862). A leading socialist in the days of Marx and Engels and a talented political philosopher who had fled from Germany after the revolution of 1848, Hess found the emancipation of the Jews not worth the price exacted by their assimilation. The underlying principle in the Zionism of Hess was the indestructibility of Jewish nationality. The motivating idea was the desire to see the spirit of Jewish

tradition, with its acute sense of social justice and its combination of a national and cosmopolitan outlook, survive through democratic socialism in Palestine.

Leon Pinsker.—Perhaps the first political Zionist in the modern sense, one who anticipated Theodor Herzl in the recognition of practical necessities (especially a politically secured territorial center for the Jews), and one of the first Russian Jews to treat the Jewish problem scientifically rather than apologetically, was Leon Pinsker (1821–1891). Pinsker turned against his personal environment, the world of the Russian and Polish Jewish intellectuals, whose liberal ideas were dissolving the foundations of traditional Jewish social and cultural life. An eyewitness of pogroms in Russia, Pinsker in 1881 issued his very influential pamphlet, *Autoemancipation*. A physician by profession, he diagnosed the condition of the Jewish people and the psychology of anti-Semitism in terms of social pathology. Why were the Jews hated? Because, wrote Pinsker, without a national existence they have nevertheless continued to display the spiritual characteristics of a national entity. "Judaophobia," he declared, "is a psychosis," a "disease" which two thousand years of Jewish exile has made "incurable." The Jew is "a stranger everywhere, wanted nowhere, and having no home of his own, he cannot claim hospitality." The treatment of this "disease" can begin only with the emigration of Jews, with the consent of the European powers, to some territory where they would lead the national life of a "normal people." For their effective liberation, however, the Jews must not continue to rely solely on the progress of civilization, but on their own inner forces, their own historic will, on self-help or "autoemancipation."

Achad Haam.—Under his famous pen name of Achad Haam ("One of the People"), Asher Ginzberg (1856–1927), a philosophical essayist writing a restrained and admired Hebrew prose, evolved a theory of Jewish nationalism which was to permeate all Zionism and supplement its emerging political ideology with a metaphysical conception of the national spirit. In his celebrated theory of cultural Zionism, he projected the positive character of Jewish nationalism, in contrast to a mere defense against anti-Semitism and ethnic assimilation. Achad Haam combined the classical prophetic tradition with a modern positivist biological theory of the national will-to-live, in a secular and cultural synthesis of traditional Zionism and modern nationalism. His emphasis on the necessity of Hebrew culture made a deep impression on the Zionist movement.

Less effective, however, was his criticism of practical Jewish colonization. This criticism, inspired by the first experiments in Palestine, held that it was unreasonable to expect of Zionism to provide a quantitative solution of Jewish needs by the concentration of huge masses in Palestine. For Achad Haam, the primary Zionist concern was qualitative and metaphysical: the resolution of the chronic spiritual crisis of a Jewry too long alienated from the original national community of sentiment. Not the number of settlements, their size, or the colonization of millions would give Palestine the power to serve as the focal point of a radiating Jewish renaissance, he believed; but only its rise as a purely spiritual-cultural center of Jewish civilization. What Palestine needed, therefore, was an elite of culture, a selected and

dedicated community of Jewish farmers, artisans, and scholars, whose example and way of life would rejuvenate the Jewish national idea everywhere in dispersion, and whose spiritual fruits would nourish the total biological and cultural organism of modern Judaism.

Theodor Herzl.—Theodor Herzl (1860–1904), the dominating personality of the Zionist movement, formulated but did not originate the theory of political Zionism. The idea of generating political conditions favorable to the establishment of a Jewish state in Palestine was already, in the 1880's and 1890's, a widespread if still ineffectual ideal of hundreds of Zionists and Jewish student-colonies all over the European continent. A rising man of letters in a central European milieu of middle-class secularized culture, Herzl had no particular feeling for traditional Jewish values. His outlook was rather detached from the living stream of Jewish ethnic life and the problems of eastern Jewry. Nevertheless, he was profoundly shaken and wrenched out of his conventional literary career by the Dreyfus Affair, which he covered as the leading correspondent of the Vienna *Neue Freie Presse*.

In his book, *Der Judenstaat* (1896), Herzl published his influential conclusions that assimilation was a failure; that anti-Semitism exists and is inevitable wherever Jews live in considerable numbers (indeed, was growing in the course of their larger migrations); and that the Jewish question, therefore, "is a national question, which can be solved only by making it a political world-question to be discussed and settled by the civilized nations of the world in council." Given international sanction, the creation of a Jewish state would require a "Society of Jews" to make the necessary political preparations, and a "Jewish Company" to serve as the instrument of colonization. The Herzl program was a call to large-scale action by Jews, the abandonment of mere philanthropic ventures in colonization, the employment of Jewish capital and modern technology, and, above all, the acquisition of a charter for an autonomous Jewish homeland guaranteed by international approval.

Offering a sharp contrast to religious and cultural Zionism, Herzl's secular nationalist program was a historical step forward. It provided the theory which was to create the World Zionist Organization and its basic institutions. Herzl's program made no metaphysical reference to creative forces in Judaism, or to a Hebrew culture and national language, or even to radical transformations which would develop a Jewish society different from its old middle-class and European forms. Nor, when the body of this program came to be directed specifically toward Palestine as its goal, did it anticipate problems with regard to the existing non-Jewish community there, much less the yet unborn era of Arab nationalism. But the purely political content of Herzl's program was historically momentous for its internal effects on Jewish society during the seven short years of Herzl's leadership, before his death in 1904.

Herzl's political negotiations for a charter came to naught. He died under the enormous burden of his work at the age of 44, conscious of diplomatic failure. Yet, with all his shortcomings, Herzl was probably the most successful leader which modern Jewish society produced. With the infectious energy which he, more than any other single individual, infused into the Zionist movement, Herzl and his colleagues set up

beginning in 1897, the series of congresses which constituted the first Jewish parliamentary leadership since ancient times. Democratic and international in scope, political Zionism, within only two to three decades, came to represent great masses of Jews whose passion was to achieve the rehabilitation of nature, man, and culture on the costly and desiccated wastelands of Palestine.

The Zionist-Socialists.—Among the numerous shades of Zionist ideology which were to influence groups of adherents, create political parties, and determine the future social fabric of the State of Israel, some were the products of theoretical syntheses, such as the synthesis of Zionism with socialism, orthodox Judaism, or laissez faire capitalism. Such major forces were the Marxist Zionism of Ber Borochov (1881-1917), the non-Marxist socialist Zionism of Nachman Syrkin (1868-1924), and what might be termed the Hebraic socialism of Aaron David Gordon (1856-1922).

The synthesis of socialism and Zionism was contemporaneous with the emergence of secular political Zionism itself. Nachman Syrkin, who first attempted it, took as his frame of reference the problem of an ever abnormal social-economic status of the Jewish masses. To attempt a wholesale reform under existing conditions, declared Syrkin, was only to create so many assimilating middle-class individuals with fresh problems. For the Jewish proletariat, therefore, there was a "double-area" of socialist activity, both where they resided and in the upbuilding of Palestine. To avoid the social infirmities of modern life, and to build a virgin society, from the very beginning, on the basis of social equality, meant for Syrkin that "the Jewish state must be socialist state if it is to be realized."

Ber Borochov, under the special conditions of the European multinational states, evolved intricate theories of the role of a landless nation and Jewish proletariat, as well as a principle of organic unity between socialism and working-class nationalism. "The fact that the Jewish people possesses no territory," stated Borochov, "is the primary cause for the abnormality of the working place of the Jewish laborer and of the strategic basis of the fighting Jewish proletariat." Wholesale economic redistribution is impossible everywhere. Only in Palestine can the Jewish worker develop a normal economic structure by entering all branches of production and so find its "strategic base" for achieving socialism.

A. D. Gordon, whose revered Tolstoyan life and figure in Palestine symbolized a revolt against the intellectualization and materialism of Jewish society, preached a return to nature, simplicity, labor, love, and mutual aid. According to Gordon, the practice of these virtues, and not the efforts of statesmen like Theodor Herzl or prophets like Achad Haam, would bring about Jewish redemption. Gordon's ideas and sentiments, constituting a romanticized version of the materialist analyses and providing the ingredients of an indigenous Hebraic socialism, deeply inspired the young Jewish pioneers with the conviction that they had a proprietary right only to land which they had bought, worked, and fructified with their own bare hands. A religion of labor was the justification of their return to Palestine and the creative principle of Jewish national life.

Other theoreticians, opposed to the secularization of Zionism, established a synthesis of nationalism and orthodox Judaism to safeguard the

traditional religion. The revisionists of the Zionist movement, who dissented from the official political strategy, did not so much evolve a theory of Zionism as a species of militant, later violent, tactics.

In the evolving practice, the rigid dogmatic materialism of the early Marxists was modified. Applied to the task of colonizing a homeland not only for the Jewish proletariat but for the whole Jewish people, the socialist energy was largely directed into cooperative institutions. Despite internal doctrinal divergences and the unceasing generation of party groups, factions, and sectarian conflicts, the World Zionist Organization, already firmly established before the death of Herzl, maintained a central neutrality. The movement had sufficient discipline, elasticity, broad common appeal, and democracy to retain its unity through one crisis after another.

Zionist Colonization in Palestine.—In 1897, at Basle, Switzerland, Theodor Herzl called together the First Zionist Congress, which evolved into a democratic body elected by popular vote. This congress founded the World Zionist Organization, whose membership in all countries adhered to the Basle Program, a definition of basic Zionist objectives. The poorest contributor of the nominal dues (the shekel) had equal representation with the largest donor of funds, thus marking a complete break with traditional philanthropic paternalism and guaranteeing Zionism as a mass movement. Congress decisions remained binding, while elected officers and bodies directed policy. In the Jewish National Fund (Keren Kayemeth) for the purchase of land to belong to the people and be given in hereditary lease to Jewish farmers, and in the Palestine Foundation Fund (Keren Hayesod) for general activities, the congresses forged practical instruments of colonization.

Despite the diplomatic failure of Zionists to obtain a Turkish charter, the years before World War I witnessed the beginnings of colonization. The war was catastrophic for the communities of western and central European Jewry, but on a basis laid by Dr. Chaim Weizmann (b. 1874), the pilot of Zionism after Herzl's death, the British Cabinet authorized its foreign secretary, Lord Arthur J. Balfour, to declare British support of Zionism as embodied in the memorable Balfour Declaration of Nov. 2, 1917:

His Majesty's government view with favor the establishment in Palestine of a national home for the Jewish people, and will use their best endeavors to facilitate the achievement of this object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine or the rights and political status enjoyed by Jews in any other country.

Official confirmation of this historical document was given by all the Allied Powers, accepted by the Conference of San Remo (1920), and included in the Treaty of Sèvres (1920) between the Allies and Turkey. In January 1919, the Emir Feisal, then the most authoritative spokesman for the Arabs, and Chaim Weizmann for the Zionists, signed an agreement providing for the carrying out of the Balfour Declaration, for large-scale immigration by Jews into Palestine, and for the protection of Arab rights. On June 20, 1922, a joint resolution was adopted by the United States Congress in Washington: "That the United States of America favors the establishment in Palestine of a national home for the Jewish people," with proper safeguards for the non-Jewish communities. On July 24, 1922, the Coun-

cil of the League of Nations confirmed the Mandate for Palestine, which came into force on Sept. 29, 1923. The mandate, incorporating the Balfour Declaration, imposed on the mandatory power (Great Britain) the obligations of securing conditions favorable to the establishment of a national home by facilitating Jewish immigration into Palestine and encouraging close settlement on the land, and provided for a Jewish Agency to advise and cooperate with the Palestinian administration. A convention between the United Kingdom and the United States, dealing with the rights of American nationals, properties, and institutions in Palestine, was signed on Dec. 3, 1924, and in due course ratified. This document included the entire text of the Palestine Mandate and, in its preamble, restated the Balfour Declaration. An enlarged Jewish Agency, including both Zionists and non-Zionists and constituting one of the most completely representative gatherings of Jews to meet in modern times, was established at the Zionist congress at Zurich, Switzerland, on Aug. 11, 1929.

The modern colonization of Palestine by Jews was the result of periodic waves of immigration, each cycle known as an *aliyah* or "ascent" to the historic land. Of the vast western migration by eastern European Jews after the 1880's, only a feeble trickle flowed toward Palestine. The *Chovevei Zion* (Lovers of Zion), inspired by ideas of "autoemancipation" in the early literature, and by the traditional doctrine of *ge'ulah haarets* (redemption of the land), organized groups in many Russian cities for a program of colonization and settlement in Palestine. For the earliest idealistic but inexperienced settlers this was a period of agricultural experiment and psychological hardship. The first wave brought largely untrained middle-class colonists to a desolation of sand, rock, disease, loneliness, and wasteland, at a time when the Zionist movement had as yet no legal status. The colonies, kept alive by philanthropy, relied on Arab labor. By 1897, the year of the First Zionist Congress, the Jewish population in Palestine numbered about 50,000, of whom some 5,000, in 22 colonies, were pursuing the still unpromising experiment to labor on the ancestral soil. A milestone in the history of the young economy was the introduction, by the Zionist Congress, of the Jewish National Fund (JNF), which bought land as the inalienable property of the Jewish people.

The second wave of immigration, following the Russian upheavals of 1905-1906, brought into Palestine the first groups of fully conscious Zionist pioneers or *halutzim*. Under the influence of a philosophy of social reconstruction, the *halutzim* held forth the slogan of "the conquest of labor" or *kibbush avodah*. These pioneers sought in the creation of a productive Jewish working class their own complete psycho-biological transformation; and, through a new occupational distribution in Palestinian Jewish society (the *yishuv*), a radical reform of the traditionally unbalanced Jewish social structure. Frustrated by conditions in middleclass colonies which were cool to their social philosophy, and by competitive cheap Arab labor, these idealists began to form the first collectives, known as *kvutzot*, on swampland and barren areas rejected by private initiative. These village communes owed their existence much less to socialist dogma than to the need of a loose conglomeration of idealists to solve their problems of work through mutual aid, and eventually

branched off into additional intermediate and semi-individualistic forms. All communal groups engaged in debating their particular ideologies, each recognizing the relative contribution of the other rival forms to the national idea. As Martin Buber points out, it was unique in the history of cooperative settlement and 20th century socialism that men of many doctrines engaged in building a country should be "so deeply involved in the process of differentiation and yet so intent on preserving the principle of integration."

There were various dreams about the future: people saw before them a new, more comprehensive form of the family, they saw themselves as the advance guard of the Workers' Movement, as the direct instrument for the realization of Socialism, as the prototype of a new society, they had as their goal the creation of a new man and a new world. . . . Behind the Palestinian situation that set the task of work and reconstruction, there was the historical situation of a people visited by a great external crisis and responding to it with great inner change. Further, this historical situation threw up an elite, the *halutzim* or pioneers, drawn from all classes of the people and thus beyond class. (Buber, Martin, *Paths in Utopia*, New York 1950.)

On the whole, these pioneers encountered no worse hardships than had men and women on other frontiers, but without the classic prospects of adventures and immediate material rewards. Their considerable historical distinction is that they became the vanguard of a pioneer spirit of social justice (*halutzut*) and established on their land-collectives a new Jewish prototype and mode of living.

The *halutz* movement spread widely in countries of Zionist activity among middle-class young men and women who, eager to be re-educated as farmers and laborers, hardened themselves in farm-camps with special training (*hakshara*) for the anticipated ordeals of pioneering in Palestine. It was such a third wave of immigration between 1919 and 1924 that laid the foundations for the expansion of a Jewish Palestine. The *halutz* movement gathered momentum, while more collectives were established under the skillful direction of the Histadrut. This unique institution combined the functions of a labor federation among the growing body of workers in Palestine, with those of a colonizing agency aiming to expand immigration and introduce cooperative forms. A fourth wave of immigration, precariously large for conditions existing between 1925 and 1928, consisted mainly of middlemen and artisans with small capital who temporarily strained the urban economy, though not the agricultural sector. The fifth cycle of immigration was a floodtide of refugees from the economic decline of Poland, a worldwide depression, and the anti-Semitic program in Germany.

Within only a few generations of the Zionist founding fathers, the urban population and the colonies had grown through the addition of business and professional newcomers arriving with some investment capital, thousands of *halutzim*, and contingents of the children's crusade known as the "Youth Aliyah." So inadequate was the rate of immigration approved by the mandatory during the early years of the Nazi program, and later when extermination camps for Jews were set up during the course of World War II, that a so-called "illegal immigration" began to reach the shores of Palestine from all Mediterranean ports. For a time after World War II the wretched boatloads of refugees were barred by British naval patrols and incarcerated on Cyprus. With the termination of the British mandate on

May 14, 1948, however, immigration reached unprecedented proportions. By November 1949 the Jewish population of the new State of Israel passed the million mark.

JEWISH POPULATION GROWTH IN PALESTINE

Year	Estimated Jewish population
1882	30,000
1919	65,000
1929	157,000
1934	283,000
1939	446,000
1944	525,000
1946	630,000
1950	1,200,000

Zionism After the Emergence of Israel.—

The establishment of the State of Israel in 1948 raised the question of whether Zionism had not fulfilled the original 1897 Basle Program of "establishing for the Jewish people a publicly and legally assured home in Palestine," and whether the movement's functions had not indeed been displaced by those of the new state. The validity of Zionist principles was re-examined in the context of the new situation.

The political function, one of Zionism's main functions before the state was created, had been exercised through the executive arm of the Jewish Agency for Palestine. Citizens of the United States, Great Britain, Poland, and other countries had been elected to the Jewish Agency and had had equal voices with Palestinian Jewish members in shaping policies. After the state was created, such Jewish Agency leaders as Dr. Haim Weizmann, David Ben-Gurion, and Moshe Sharett (Shertok) became members of the government, which naturally took over responsibility for state affairs. During this transitional phase the functions of Zionist bodies narrowed down, thus bringing to the fore questions of the expediency of legalizing the status of Zionist activity, altering its nature, delimiting its scope, and reorganizing its structure.

The balance of argument on proposed new measures for the Zionist movement weighed in favor of conserving its storehouse of energy, resources, and accumulated experience. The premise was that Zionism's ultimate goal had not been the establishment of the state, but the "ingathering of the exiles" (*kibbutz galuyot*), a goal partially consummated by the wholesale immigration of the Yemenite and portions of other Jewish communities, these being only a fraction of the total potential immigration from Europe, Asia, and Africa, artificially barred by political strategy. Thus, the fundamental debate in Zionist principle soon turned to a discussion of the division of functions between the State of Israel and the Zionist movement. Even before

Zionist congress could assemble to give parliamentary sanction to a neo-Zionist program following the emergence of a state, it was clear that those political and economic spheres reserved to the sovereign authority of a state would remain beyond the jurisdiction of the movement. The movement itself would be empowered to assist in the processes of facilitating immigration and the initial stages of colonization in Israel, while Zionist sections in their respective countries would engage in raising the traditional funds, promoting education and cultural activity, training youth preparatory to settlement, and stimulating private capital investment and technological skill in Israel. Thus, the Zionist move-

ment, after a half century of activity, reached a period of experimental adjustment to the following realities and problems: the movement's internal organizational structure and functions; the legality and competence of the Jewish Agency for Palestine; conditions of Zionist membership in the new phase; the relationship of Zionists, as nationals of several countries, to the sovereign entity of Israel; and the status of various Israeli political parties as they affected the party structure of Zionist congresses and internal affairs of Israel.

By 1950, the Zionist movement, as dating from the first congress at Basle, was 53 years old and had labored only about three decades under a status of international sanction. More than a million Jews were settled on the partitioned area of Palestine that was the State of Israel. Under favorable conditions for the right and means of emigration, another potential million could have engaged the attention of the movement. The results achieved and the opportunities established vindicated a half century of Zionism. The concentration on Palestine by Jews had undoubtedly been accelerated by economic disorders, war, and anti-Semitism during a period when nearly all the doors of immigration, except to Palestine, had been shut to Jews migrating in large numbers. But long before 1933-1950, Zionism had been the catalyst of a Jewish national and cultural renaissance. In the years of crisis, it mitigated the catastrophe in Europe and sustained the promise of Jewish life when instruments of philanthropy alone were inadequate and when the humanitarian acts of liberal countries were too reserved or belated. By creating the first Jewish parliamentary organization since ancient times and bringing universal attention to a corporate solution of the Jewish problem, Zionism had become a factor in the political world of the 20th century. In the homeland which became a state, Zionism showed organizing ability unique in the history of colonization, developing an idealistic pioneering elite that exercised a formative influence on the social institutions of the country, and thus bringing into an unwilling semifeudal Arab Middle East concepts of democracy and technology at once promising and irritating.

To the extent that Israel was a country of immigrants which was compelled (though willing) to keep pace with external crises that brought an influx of heterogeneous human material, its powers of acculturation and its young economy were strained. Not even under these circumstances, however, was its extraordinary policy "to welcome home every Jew who seeks entry" modified. The promise of a spiritual, religious, and cultural center was greeted by both Zionist and non-Zionist Jews. As witnesses of an historical event attended by profound associations derived from a common Bible, many Jews and Christians throughout the world saw a confirmation of the prophetic vitality of the old Israel in the restoration of the new Israel. The reconciliation of the Arab world to the existence of the Jewish state remained a devout hope of mid-century international diplomacy occupied with the problems of world peace. Among many forces which have stirred the masses of Jewish society, Zionism may be called the main current of action and belief in modern Jewish history.

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17. JEWS IN MODERN PALESTINE.

More than a half century of Zionism, and the emergence of the State of Israel in 1948, have given Palestine a unique place in modern Jewish society. Palestine contains one of the two most important traditional communities of Jews remaining after World War II, the other being the Jewish community in the United States. For wider historical, religious, political, and geographic reasons, interest in Palestine is out of all proportion to the extent of its area, population, and resources. It is profoundly associated with three great religions, Judaism, Christianity, and Islam. Moreover, Palestine is part of an Arab Near East which stretches from Iraq to Egypt and from Syria to Oman, a region of the highest importance in global politics, where the interests of the big powers have converged or collided over oil resources, communication arteries, and diplomatic strategy. In antiquity, during the Crusades, through two world wars, down to the partition between Jews and Arabs, the small land area of Palestine has had few equals for complexity of moral and material forces.

Historical Background of Modern Israel.—

A Jewish state in ancient times, Palestine was not independent during the 1,800 years after the Roman invasion and the Jewish dispersion, suffering the changing fortunes of the Byzantine Empire, conquest by Moslems, the Crusades, the Moslem recovery, and conquest by the Turks. Thus, in 1914, Palestine was a province of the Ottoman Empire. When the Turkish front collapsed at the end of World War I, the British occupation forces took over the administration. Notwithstanding the vicissitudes of history, reimmigration of Jews into Palestine went on in almost every century since the days of the Babylonian Captivity, though only in small numbers, commensurate with prevailing political and economic conditions and the enormous difficulty of travel. Despite wars, invasions, and natural calamities, the Jewish population of Palestine never disappeared entirely and constantly replenished itself through the arrival of individuals.

families, or groups. The Hebrew word for "exile" (*galut*), expresses a concept implying "homelessness" and the continuity of Jewish attachment to Palestine. Among the Jewish settlers or pilgrims, some having come to end their days on ancestral soil, were pietists, scholars, philosophers, poets, cabalists, and statesmen. Whether in prayer or folklore, passionate Messianism or ethnic cohesion, the bond between Diaspora Jewry and Palestine constituted a historical connection which colored the whole of Jewish life.

In the 20th century, the forces behind the return of large Jewish masses to Palestine were principally the need of many Jews for an economic and psycho-physical readjustment, the rise of racial anti-Semitism, and the successful Zionist colonization efforts in that country. The first Zionist Congress met at Basle, Switzerland, in 1897, establishing a program for a "publicly assured and legally secured home for the Jewish people in Palestine," and setting as its task the colonization of the land by Jewish agricultural and industrial workers. The Balfour Declaration, issued by the British government in 1917, incorporated the purposes of the Basle program and was made part of the Palestine Mandate issued by the League of Nations to Great Britain, coming into full effect in 1923.

Before the mandate went into effect, the local Arab population, until then neutral or even friendly, was led into sporadic rioting by Arab nationalists. To conciliate the militants, Transjordan (about 35,000 square miles) was partitioned from the remaining area of Palestine 10,429 square miles), to which the establishment of the Jewish home was now to be confined. Moreover, the basis of British policy was embodied in the restrictive White Paper of 1922, which declared that "the terms of the declaration . . . do not contemplate that Palestine as a whole be converted into a Jewish National Home, but that such a home should be founded in Palestine." The concept was also established of the country's "absorptive capacity" as a limiting factor upon Jewish immigration, but the Jews were declared to be in Palestine "as of right and not on sufferance."

The basic feature of life in Palestine during the period of the Jewish National Home was its division into two communities, Jewish and Arab, with contrasting economies and cultures. In the relative peace up to 1929, the Jewish population increased to 16 per cent of the total. Jewish effort gradually raised an economy within Palestine above the prevailing semifederal, patriarchal, and generally illiterate level. Westernizing influences were introduced in the forms of agricultural technique, industry, education, hygiene, and social relationships. Between the Arab peasant fellahin and the hereditary land-owning effendi there stood only a small and weak middle or laboring class and any stimulus to change was frustrated. Among Arab nationalists, divided by internal political rivalries, Zionism became a unifying symbol of Western imperialism.

Notwithstanding the drastically modified terms¹ and reduced area of the Jewish National Home, Arab violence came to a head in 1929-1930 and 1936-1937. These crises resulted in a checking of Jewish immigration and in the instituting of various investigations which produced contradictory proposals. The general policy of the British Colonial Office frequently created the impression

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(1) A Rumanian-born pioneer, his rifle at his side, plows the land with a Diesel tractor in the Latrun border district near Jerusalem. (2) Hoisting the Israeli flag at the start of a new kibbutz (farm collective). (3) An immigrant family arrives at the large reception center of Shaar Ha'aliyah near Haifa. (4) Modern education of kibbutz children at Kfar Blum, in the Northern Galilee. Named after the former French premier, Léon Blum, the kibbutz has a large proportion of members who came from the United States. (5) Kibbutz En Hashofet, founded in 1937 on the hills of Ephraim, is well developed in all branches of agriculture. En Hashofet (meaning spring of the judge) is named after the former U.S. Supreme Court justice, Louis D. Brandeis.

Photographs (1, 2) Black Star, New York, (3) Leni Sonnenfeld, New York, (4, 5) Herbert S. Sonnenfeld, New York

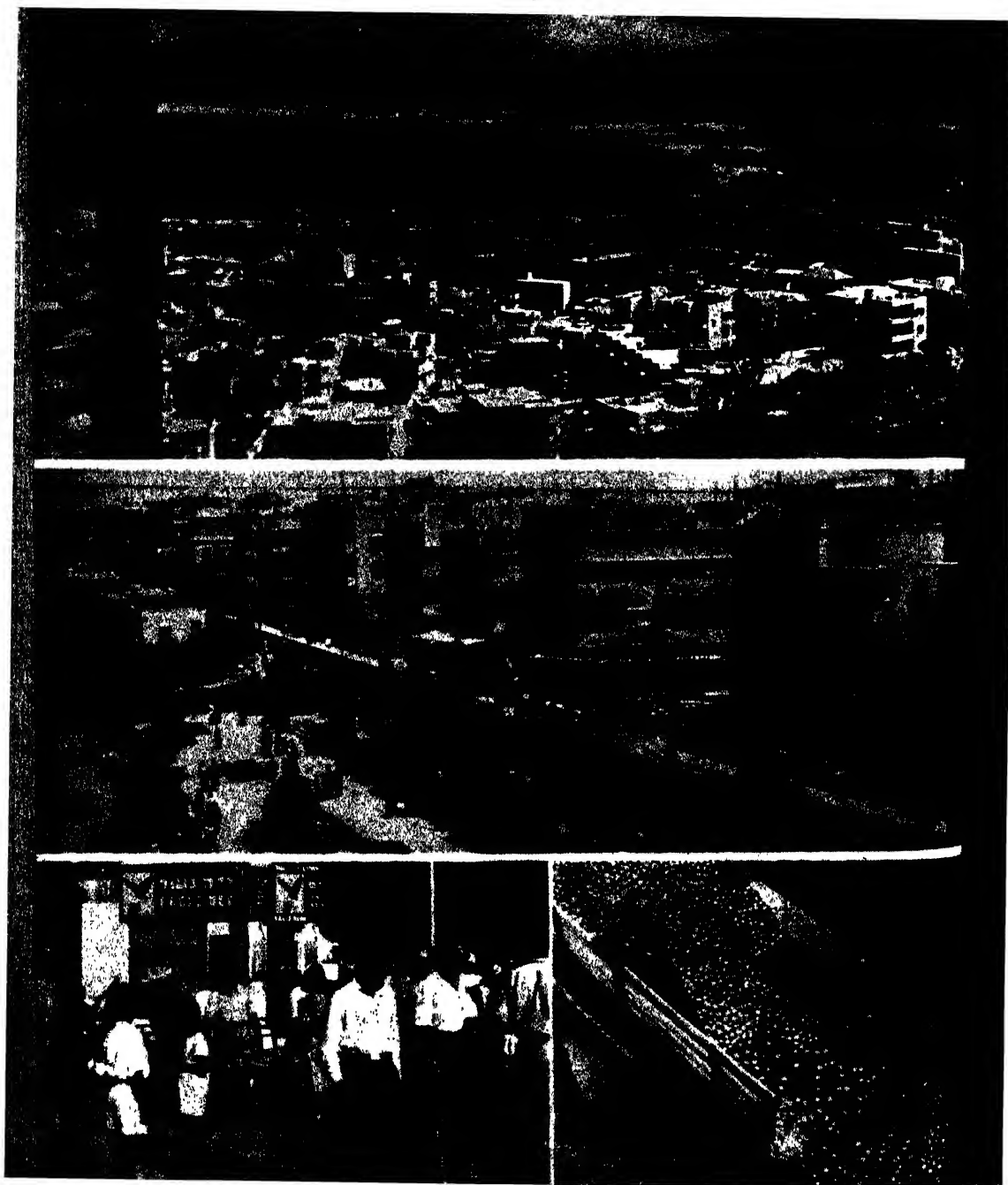




JEWISH HISTORY AND SOCIETY

(1) Israeli workers in a kibbutz (farm collective) workshop. Most of the kibbutzim have facilities for the maintenance and repair of equipment. (2) View from Mount Carmel of Haifa and Haifa Bay area, a growing industrial center. In the foreground are the Hadar Hacarmel residential quarters built mostly since 1930. In the background are the mountains of the Western Galilee, which reach to the border of Lebanon. (3) Residential street in Tel Aviv, largest and most modern city of Israel. In the center is one of the sidewalk cafés popular with the city's inhabitants. (4) A busy corner in Tel Aviv's business section. The Yemenite Jew in the right foreground has assumed Western garb. The beer advertised is produced in Israel. (5) Unloading a haul of citrus fruit, Israel's chief export product.

Photographs. (1, 2, 4) Herbert S. Sonnenfeld, New York; (3) Leni Sonnenfeld, New York; (5) Black Star



among Zionists of a frankly sceptical or even hostile attitude toward fulfilling the terms of the mandate. Thus, the Shaw Commission of 1929, indirectly justifying the Arab outbreaks, recommended greater restrictions on Jewish immigration and a virtual prohibition of land purchase by Jews. The Peel Commission of 1937, however, denied the theory of equal obligations to Jews and Arabs, and asserted that the mandate had been predicated on the supposition that the Palestine Arabs would accept the Jewish National Home. Recognizing, however, the political basis of Arab national resistance, and frankly admitting that Arab violence was largely the result of giving the Arabs an impression that Great Britain was not seriously committed to the Jewish National Home, the Peel Commission recommended the partition of Palestine, with the creation of a Jewish state and an Arab state joined to Transjordan. On the basis of this plan the Council of the League of Nations called for a detailed study of the partition of Palestine; but still another of the interminable investigations, under Sir John Woodhead in 1938, reported that no successful plan of partition could be developed.

The Jewish population had increased to 28 per cent of the total when, after the Arab incidents of 1936, the immigration policy, professedly based on economic absorptive capacity was curtailed for political rather than economic reasons, and then permanently abandoned by Great Britain after the White Paper of 1939. That document announced the unwillingness of Great Britain to continue the development of the Jewish National Home. It outlined a program restricting Jewish land purchases, limiting the Jewish community to one third of the total population, and preparing Palestine for self-government under these controls within 10 years. This policy was pronounced by the Permanent Mandates Commission of the League of Nations as in conflict with Great Britain's mandatory obligations. The practical effects of the 1939 White Paper were to shut off Palestine to any sizable Jewish immigration in the period when six million Jews died in the Nazi trap in Europe, and to throw the Jewish community of Palestine into great agitation.

The Arab-Jewish conflict after World War II was sharpened by the course of action taken by the mandatory. Even before World War II, the policies of the British government in the Middle East were undergoing change, as shown in the restrictive White Paper of 1939 and the developing new political, economic, and military arrangements with the Arab states. Postwar British immigration policy in Palestine resulted in the interception of ships carrying Jewish refugees and the internment of these refugees on Cyprus. Assisted by underground channels of the Haganah, the Jewish resistance force which was to form the base of the army of Israel, a number of refugees reached the Palestine coast as "illegal" immigrants, though some of their ships were sunk, resulting in the loss of life, and inflaming both their kinsmen in Palestine and the world Jewish population. Mounting tensions and the accumulation of tragic episodes led to armed attacks on the British by less disciplined forces than the Haganah, such as the independent and sometimes terrorist units, Irgun Zvai Leumi and the Stern Group. These acts, in turn, resulted in the enforcement of further restrictions the mandatory, serving it with occasions to suspend civil liberties, govern by martial law,

and arrest members of the Jewish Agency for Palestine.

Meanwhile, in 1946, the Anglo-American Committee of Inquiry, constituted the previous year by the United States and Britain, had recommended that 100,000 Jews be authorized to immigrate into Palestine at once, that Palestine become a trust area under the United Nations, and ultimately be neither Arab nor Jewish. In the ensuing public debate, many solutions were proposed, such as partition, federalization, cantonization, and multiple varieties of these plans. In February 1947, on the assumption that "the Mandate has proved unworkable," the British government placed the problem of Palestine before the United Nations. A United Nations Special Committee on Palestine (UNSCOP) was formed and proceeded to investigate the disordered scene in Palestine, the Jewish displaced persons camps in Germany, and the problem of Jerusalem and the Holy Places. A majority of the committee proposed the partitioning of Palestine into separate Arab and Jewish states with economic union, and a trusteeship for an independent city of Jerusalem. The minority proposed the plan of a federal state, with controlled Jewish immigration. On Nov. 29, 1947, the U.N. General Assembly adopted the majority partition plan by a vote of 33 to 13 with 10 abstentions. The assembly resolution provided for the termination of the British mandate, defined the boundaries of the Jewish and Arab states, instructed the Trusteeship Council to prepare a statute for Jerusalem, and called upon the Security Council to aid in the plan's enforcement. The partition plan was immediately denounced by the Arab Higher Committee of Palestine and by Egypt, Iraq, Lebanon, Saudi Arabia, Syria, and Yemen, the six Arab members of the United Nations. Within a week after the passage of the United Nations resolution, troops from these neighboring Arab countries invaded Palestine.

Despite the refusal of Great Britain to allow United Nations representatives to enter Palestine in order to halt hostilities and prepare for the transfer of authority, the termination of the mandate on May 14, 1948, found a provisional Jewish government already functioning; for the State of Israel had been proclaimed that same day in Tel Aviv. Thus, the passing of the British mandate failed to leave a political vacuum. Even as the Security Council questioned its own ability to enforce partition, the establishment of a state by the Jewish community constituted the only implementation of the United Nations resolution; and the decision of the Arab states to make war only added to the reality of the partition. Moreover, almost simultaneously with the proclamation of a Jewish state, President Harry Truman announced that "The United States recognizes the Provisional Government as the *de facto* authority of the new State of Israel," and the recognition of other powers, including the Soviet Union, followed.

The Arab League at first attempted, through guerrilla warfare, to prevent any consolidation of Jewish governmental authority by disrupting interurban communications and attacking exposed villages; but after a series of defeats, the panicky flight of the Arab masses from Jewish areas removed the means of continued guerrilla warfare. Jewish ports came under Egyptian aerial and naval bombardment and regular Arab armies

marched on the Jewish community. Israel's improvised army, Haganah, its tiny military striking force, Palmach, and the home guards, all products of underground training, lacked arms, planes, and oil. Yet, up to the first United Nations truce, they staved off Syrian tanks in the north; encircled the Egyptians near Isdud in the southern Negev; and, having lost the Old City of Jerusalem to the British-trained and equipped Arab Legion of Transjordan, held the beleaguered New City with its 100,000 Jews. In the intertruce period, Israeli forces seized the Lydda Airfield, Ramle, and Nazareth. Thereafter, its supply of arms improved. Israel quickly achieved military superiority in the Negev and Galilee, since, with the exception of Transjordan, the Arab states had not risked their full military strength, had no unified command, and were plagued by internal political dissension. Moving into a vacuum left by Arab flight and the inability of the United Nations to stop the Palestine War, Israel attained unanticipated *de facto* boundaries. Thus, continued warfare was halted by hard military facts, Arab disunity, and the political action of the United Nations, which in 1949 effected separate armistice agreements between Israel and each of its Arab neighbors.

The original United Nations partition plan of 1947, guided by the distribution of Arab and Jewish populations and the problem of dividing resources, had provided for an Arab state of 4,300 square miles and a Jewish state of 5,700 square miles. However, the invasion by the Arab states and the flight of the Palestinian Arabs had basically altered the distribution of the population. Under the 1949 armistice agreements, about 7,100 square miles were controlled by Israel, thus adding about 1,400 square miles to the area originally assigned to it under the 1947 partition plan. Israeli claims to the additional territory, which lay chiefly in the Negev and Galilee, were based on the military victories which had won Acre, Lydda, Ramle, Beersheba, Nazareth, and surrounding areas. Claims to Galilee as an essential part of Israel were made also on the grounds of its strategic potentialities as a base for attack by Arabs. The Negev was regarded by the Jews as the only area where there were land reserves for large-scale colonization and development, providing also access to the Dead Sea minerals and a foothold on the Gulf of Aqaba. Under the 1949 armistice agreements, Transjordan occupied about 3,000 square miles of the former mandate, 125 square miles were held by Egypt in the Gaza area, and a tiny frontier section in the El Auja vicinity was constituted a neutral zone under United Nations supervision.

Economic, Political, and Social Life of Israel.—The basic feature of society in the new State of Israel is its fluidity. While the powerful original impulse and idea—a Zionist, cooperative, ethical, and religious influence—exerted fundamental force, Israeli society, both in its economy and its diverse culture, is in the process of becoming. Thus, the New Jerusalem with its growing network of surrounding villages; Galilee with its project to convert thousands of marshland acres into fertile soil; the Negev with its new pipelines and agricultural experimentation; the discovery of sweet water in the desolate Azaba Valley south of the Dead Sea; the new docks in Eilat on the Gulf of Aqaba; and the proposed "Jordan Valley Authority"—these, and the growth of new settlements and industries under the impact

of immigration, attest the dynamic character of life in the young Jewish state.

With private capitalism, cooperative enterprises, and collective land settlements existing side by side, and with the citizen or immigrant free to select or shift to that economic unit which attracts him, the structure of Israel's economy is one of the significant social experiments of the 20th century. Though perhaps lacking the essentials for a large-scale development of heavy industry, Israel, both in its human and natural resources and its advantageous location, contains the basic elements for the growth of a varied and specialized light industry, a mixed agriculture producing both for domestic consumption and export, and an active foreign trade. In the Jezreel Valley of the north lie agricultural lands richly reclaimed from once malarial swamps. In the south, the extensive Negev desert is already in the process of reclamation, giving promise of further settlement. On the Mediterranean coast, ports, which could one day form a nexus of international trade, are under expansion. In the east, the abundant Dead Sea chemical deposits provide the basis for a growing chemicals industry. In its human element, a population approaching 1,500,000 in 1950, but still expanding at an unprecedented rate by continued Jewish immigration, the country possesses a highly literate community, a trained labor force, and a high ratio of skilled and professional workers.

Industry and Trade.—The influx of raw materials and machinery, the increase in technological knowledge and electric power, and the phenomenal population growth radically altered an economy whose chief activity in 1921 had been agriculture. Since 1937, Jewish light industry has been directed to such branches as textiles and clothing, leather tanning, woodwork and furniture, building materials and chemicals, paper and printing, metal working and engineering, industrial processed foodstuffs, and diamond working. By 1947, the distribution of gainfully occupied Jews was: agriculture, 12 per cent; manufacturing, 25 per cent; building and construction, 6 per cent; transportation and communication, 7 per cent; commerce and trade, 15 per cent; professions, 14 per cent; services, 7 per cent; and miscellaneous, 14 per cent. In occupational distribution, and the dependence of its skilled labor on imported raw materials, Israel follows the economic pattern of Great Britain, Belgium, and Switzerland.

In the expanding economy of Israel, foreign trade plays a role of prime importance. Israel is not only heavily dependent upon imports, but also requires foreign markets for its industries and to supply much-needed foreign exchange. Despite the growth of mixed farming, Israel still requires cereals, vegetables, dairy products, cattle, coffee, sugar, and other foodstuffs from abroad. For its growing industries, Israel imports cotton, wool, wood, steel, rough diamonds, oil, aluminum, and other raw materials and semifinished products. Imports of manufactured goods include agricultural and industrial machinery, wearing apparel, medical and optical supplies, fertilizers, paper, motor vehicles and parts, electrical goods and appliances, and many other items. Israel's chief exports are citrus fruits and byproducts, finished diamonds, fashion goods, concentrates, household articles, gift items, textiles, and chemicals.

Under the conditions of unprecedented immi-

ration and economic expansion, Israel's imports far exceed exports, creating problems of a heavily unbalanced foreign trade. Thus, in 1949, imports amounted to £87.7 million, as against exports of only £10.6 million (the Israeli pound equaling 2.80). However, assuming political stability and general harmony in the Middle East area, Israel's chemical deposits are available for export on a larger scale; citrus concentrates are ready for vitamin-starved populations abroad; export industries based on highly specialized skills in diamonds, style goods, handicrafts, artificial teeth, and instruments can be further expanded; and Israeli manufactures can replace articles formerly imported from distant sources by the Middle East.

Histadrut.—Private industrial enterprise, representing 80 to 90 per cent of the total industry of the country, dominates the metal, chemical, paper and printing, diamond, textile and clothing, dye, woodworking, and leather industries, and segments of the building material and construction branches. The remainder is in the hands of the cooperatives, the most important of which are controlled by Histadrut, Israel's General Federation of Labor. By any standards this is a unique nexus of institutions, whose membership embraces about 90 per cent of all organized labor in Israel. It is stronger than any trade union in any other free and democratic country, and for a generation has been the training ground for the personalities who provide the dominant political leadership of the state.

Histadrut operates the country's labor exchanges (the official employment bureaus which dominate the labor market), its authority amounting to a virtual closed shop in the industrial sector of the economy. Through its agricultural settlements it controls about 70 per cent of the country's mixed farming, and is also the owner of factories and warehouses and an employer of labor, with a direct owner-manager stake in about 20 per cent of Israel's commerce and industry. Since 1920 it has been the outstanding agency of Jewish colonization in Palestine, having organized labor immigration, established and supervised collective farms, organized the sale of agricultural products and the cooperative purchase of consumer goods, operated contracting agencies, a bank, loan associations, a sick fund, an unemployment fund, a newspaper, a publishing house, clinics, hospitals, schools, and numerous cultural activities.

Histadrut has considered its network of cooperative enterprises the basic pattern of a future state, and its special political structure the prototype of a future labor commonwealth. It has encouraged trade union organization among the Arabs, maintained connections with international labor and socialist bodies and congresses, and aroused worldwide interest in itself as an important social laboratory of the 20th century. The origin of this workers' movement may be traced to the socialist ideology of the earliest agricultural Labor-Zionist immigration which founded the first trade union in Palestine, and indeed in the Middle East. It was altogether unusual that agricultural workers should form the vanguard of a trade union movement; that unions should engage in collective and cooperative enterprises; and that a labor organization should subordinate the conventional duty of protecting jobs and wages to that of colonizing farmers and laborers arriving steadily from other lands. The social

philosophy and institutions of Histadrut have been among the most influential factors in the life of Israel.

Agriculture and Land Settlement.—In the course of half a century, Zionist colonization has developed Israel's three basic forms of land ownership and cultivation: private capitalist, cooperative, and collective; the latter two having been as much the result of the settlers' need to pool manpower, capital, and skills to survive the rigors of pioneering, as of socialist and cooperative theories. The Jewish National Fund (JNF), a Zionist institution, holds land as the inalienable property of the Jewish people and leases it to individuals and groups. In 1920 the JNF owned about 10 per cent of the area of Jewish rural land; at the end of 1943 about 52 per cent. By value, however, the share of the JNF was smaller, for the most valuable citrus lands were chiefly in private hands and the JNF owned very little urban land. Thus, about half of the Jewish-owned nongovernment land is owned by the JNF, and the remainder by individuals or private land companies. JNF land, which is leased, not sold, is primarily agricultural, though the organization has played an important role in urban development, such as industrial land development around Haifa. Privately held Jewish lands are concentrated in the cities, in some sections of the coastal plain between Haifa and Tel Aviv, within the older settlements like Petah Tikvah, and in some parts of Galilee. The Israeli government inherited all the mandatory's governmental property and keeps in trust all land abandoned by the Arabs during the Palestine War.

The three main forms of social and economic organization of Jewish agriculture are the *moshavot* or private villages with individual farming; the *moshavim* or villages based on cooperative ownership and farming; and the *kibbutzim* or *kvutzes*, which feature collective ownership and farming. Each village form in Israel represents a distinct mode of life and farm operation. Individual or small-capitalist farming, especially in citriculture, was most important in numbers employed, investment, and output, before the dislocation of shipping during World War II. Second in importance has been cooperative farming, with houses designed for individual families on individual garden plots, each cooperative farmer working for his own account and savings. In the collective farms, which are also established on JNF land, no private property or accounts are owned by members. All community matters in the collectives are decided by majority vote. Members, who are purely voluntary, are zealously dedicated to the social philosophy of a communal, democratic, nonexploitive society. All share equally in the common economic fortunes and facilities of the collective, including its dormitory rooms, dining hall, library, medical unit, separate children's houses, and school.

Among the more than 300 agricultural village settlements in 1950, with a population of 150,000, the cooperative and collective forms were dominant. Private agriculture, which produces only about 30 per cent of mixed farming products, yields 80 per cent of the citrus crops. About 13 per cent of the country's total agricultural output consists of cereals and fodder, 19 per cent vegetables and fruits, 28 per cent dairy products, 12 per cent meat and fish, and 28 per cent citrus crops. Chief trends in Israel's agriculture are the application of scientific methods, including

improved crop rotation and mechanization; a shift from production of grains to vegetables and fruits; and intensive utilization of land, with increased productivity through the development of irrigation facilities.

The Israeli State and Community.—The political basis of community life was laid as early as 1920 in the National Council (Vaad Leumi) and, in 1928, in the supreme governing body, Knesset Israel, which gathered taxes on a voluntary basis for education, social welfare, and rabbinical courts. There was close collaboration between the local community's Vaad Leumi and the Jewish Agency for Palestine, which represented the international Jewish community in the colonization of Palestine. When a Jewish provisional council met in Tel Aviv on May 14, 1948, it proclaimed *Eretz Israel* (Land of Israel) and established a provisional government, with Dr. Chaim Weizmann as president and David Ben-Gurion as prime minister. In the general election of Jan. 25, 1949, some 440,000 Arab and Jewish voters cast their ballots for the 120 representatives to the Knesset, the single-chambered national Parliament. The strongest of the 12 parties which won seats in the Knesset were the socialist Mapai (Israel Workers Party) which obtained 35 per cent of the popular vote and 46 seats, and the more leftist Mapam (United Workers Party) with 15 per cent of the votes and 19 seats. The Knesset, convening in Jerusalem, elected Dr. Weizmann as president of Israel on Feb. 17, 1950. Dr. Weizmann then appointed David Ben-Gurion as premier, who formed a four-party coalition cabinet which is responsible to the Knesset.

While the draft constitution clearly guaranteed the equality and freedom of persons of whatever race, religion, language, or sex (including special proposals to abolish the death penalty, give free access to holy places, guarantee the right to work and organize unions, legislate for social security, and "welcome home every Jew who seeks entry" into Israel) and was thus generally based on principles of tolerance and equality, it nevertheless had some provisions contrary to a Western concept of religious freedom. Though it established no special privilege for Judaism, contained no explicit discrimination against any other religion, and in fact protected the three major religions in the country on a basis of equality, it did not provide for a strict separation of church and state. As under the mandatory, questions of personal status (such as marriage, divorce, and inheritance) were assigned to special religious courts of the Jewish, Moslem, and Christian communities. While perhaps only 20 per cent of Israel's inhabitants actually accepted the whole orthodox Jewish code, no provisions were made for secular, nonreligious courts with jurisdiction in these matters. In the early critical period of the state, a *kulturkampf* was averted by compromise between secular and religious authority, in a coalition government of Mapai and the religious bloc. The delay in adopting a written constitution was prompted by the desire to avoid a premature stratification of the legal structure and the entrenchment of clerical influence in a young and rapidly changing country. Thus, on June 13, 1950, the Knesset voted, 50 to 38, against the immediate adoption of a full written constitution. It decided instead to legislate separately on basic matters within the next several years, these acts to be eventually combined into a fundamental code of laws. Though

a law providing for free education was passed in 1949, a uniform educational system was lacking in a community which insisted on maintaining four types of schools, each with a specific indoctrination: general (about 42 per cent of all students); labor-socialist (31 per cent); and two religious types (26 per cent together).

A new monetary system was introduced, based on the Israeli pound. Hebrew was proclaimed the language of the Jewish part of the community. Both the Jewish and Gregorian calendars were adopted for official use. A universal conscription bill imposed various lengths of military training, and a service bill provided for the drafting of young men and women for a year of agricultural and military training and a year of specialized vocational training. Reflecting the cooperative tendencies which dominated the development of the Jewish community, the two labor parties—the moderate Mapai which controlled the government, and its left-opposition, Mapam—were the two strongest groups in the Knesset. But passage of the investment bill to encourage the influx of private capital was an indication of readiness to subordinate socialist principles to the needs of the economy. However, the state resorted to central planning of immigration, defining areas for rapid settlement and the economic policy, but without enforcing any particular form of economy. Its professed goal was a mixed cooperative and private economy, based on intensive agriculture and a highly specialized light industry, supplemented by maritime trades, fishing, and tourist enterprise.

To the 650,000 Jews in the country before the declaration of the state, the immigration of only two years added about a half million from Europe, Asia, and Africa. This influx exerted a considerable strain on the young economy, necessitating the imposition of an economic austerity program and requiring financial aid from Jews abroad. Nevertheless, most of the newcomers were absorbed in the towns, villages, and settlements, though many waited in reception camps for months during the crisis of allocating jobs and housing. No less challenging than the problem of shelter and employment was the social problem for Israel of a heterogeneous society embracing Jews with both Western and Oriental outlooks and folkways. While the earlier settlers and the first waves of postwar immigrants were chiefly from central and eastern Europe, an increasing proportion of newer arrivals came from North Africa, Yemen, and Iraq, adding to the already diverse cultural strains.

The Arab population of Israel, about 175,000 in 1950, lived in some 130 villages, for the most part in the north, and the rest in the central "triangle." The Arab town population was concentrated in Nazareth, Haifa, Jaffa, Acre, Majdal, Ramle, and Lydda. The majority of Arab villagers are small farmers, while the urban element consists of workers and artisans and a small professional group. Marked changes in the Arab social structure within Israel are the disappearance of extreme wealth and poverty with the passing of the landowning effendi; an increased ratio of rural population; the beginnings of a self-conscious workers' and small farmers' class organized in various trade unions; and the emergence of consumer, producer, and marketing cooperatives, mutual aid institutions, and even Arab experimentation in collective living patterned on the Jewish *kibbutz*.

Among the long-standing accomplishments which have raised living standards in Israel and have had widening effects throughout the Middle East, are the improvement in sanitary and health conditions, the control of malaria and trachoma, the network of modern hospitals and welfare stations (especially those created with talent and energy by the welfare organizations, Hadassah and Kupat Holim), the devotion to children, and the rapid introduction of scientific research and techniques. A cultured if pioneer community, Jewish Palestine has long been creative in music, art, the theater, literature, and journalism. The vitality of its cooperative life and the Hebrew renaissance have revitalized national customs and generated new folkways. Indeed, the native-born Israeli youth, or *sabras*, are said to have developed an indigenous Jewish type in manner, style, and physique.

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editor of "Jewish Frontier."

18. ETHNIC STATUS OF THE JEWISH GROUP. Before the emancipation period, which began at the end of the 18th century, all Jews considered themselves members of the Jewish nation, a group restricted to those confessing Judaism, chosen by God to spread monotheism. The ancient loss of statehood and the dispersion failed to affect this concept. Jewish theology viewed these events as punishment for the sins of the Jewish people, and taught the Messianic renewal of statehood in Palestine. The definition of the Jews as a religious nation was also shared by the Christian and Moslem religions.

With the rise of emancipation began the abandonment of the traditional definition. The concept of nationality became identified in modern times with political statehood or citizenship. Many Jews, having abandoned the traditional pattern through fear of anti-Semitism or other reasons, felt that in order to obtain political equality, it was essential that they retain only religious connections with their people. Assimilation also led to the definition of the Jews as a cultural group. Marxists put forward the definition as an economic caste, which led, in part, to the definition as a social or linguistic group. Various secular nationalist theories arose in the 19th and 20th centuries, which insisted on defining the Jews as a nationality. Most Jews, nevertheless, retained the traditional view of themselves as a religious people. Zionism introduced the drive for political "normalization" through a Jewish national state in Palestine and through a Hebrew cultural renaissance. Nineteenth century persecution and 20th century mass killings at the hands of the Germans and their collaborators also strengthened Jewish nationalism.

Jews as a Religious Community.—The

most common postemancipation definition has been that of a religious group. This designation was in keeping with the tendencies of the national states toward a single nationality. In the multinational states, assimilated Jews usually joined the master nation or the culturally higher national group. The religious definition, however, falls short of reality, since it does not hold true for the atheists or agnostics among Jews, nor for the secular nationalists who have not severed their connections with the Jewish group. The adherents of the religious definition are usually within the extreme antinationalist wing in Reform Judaism, assimilationists, or those of the Left wing with increasingly tenuous Jewish contacts. The overwhelming majority of the religious Jews modify the religious definition by adding the national element, thus adhering to the traditional religious-national concept.

Jews as a Race.—Discussion of the absurd anti-Semitic racist definitions of the Jews as a lower race in contrast to the superior "Aryans" is pointless. The Jews have always been racially mixed, having absorbed individuals and groups of many races throughout their long history. Ezra's exclusion of "aliens," designed to protect the Jewish religion and the Hebrew language, was short lived. It left no impression, as evidenced by the assiduous and successful Jewish missionary activities. These activities reached mass proportion in the 1st century B.C., as well as during the following two centuries. Conversions continued in spite of prohibition by the Moslem and Christian churches. The most significant among the later waves were the proselytizing of the Khazars in the 8th century and in Russia in the 15th, and 19th centuries.

While the overwhelming majority of the Jews belong to the "white" race, there are also Jewish groups among other races, such as the Negroid Hamitic Falashas in Ethiopia, Black Jews in India, and Indian Jews in Mexico. Bukharian Jews display evidences of Turko-Mongolian mixture. Anthropologists disagree about the racial continuity of the modern Jews with their Palestinian ancestors. Some assert that such a continuity exists and that, modified through admixture, it produced a blending of Nordic, Alpine, and eastern Mediterranean elements, with subsequent characteristic physical features. Inconclusive measurements indicate that the majority of the Jews belong to the brachycephalic head type, with small groups of mesocephalics and dolichocephalics in North Africa and Yemen, respectively. Most Jews have dark eyes and hair. Among the European Jews are considerable numbers with light eyes and light hair, in some countries as high as 51.3 and 29.9 per cent, respectively. There is evidence of a predisposition to tall stature, which comes to the fore with better nutrition. Only 14.25 per cent among the men and 12.70 among women, less than among the Bavarians, Italians and Armenians, have the hooked "Jewish" nose; the majority, 57.2 per cent among men and 59.42 among women, have "Greek" noses. Studies also show that there are marked differences in blood type between Jews and gentiles, with very large differences between Jews of different countries, and with a generally greater percentage of type B.

Jews are frequently called a "race" in the same sense as the English or Irish. This has nothing to do with the derogatory racist definition and often stems from the difficulty in accepting

the national definition and the limitations of the religious one. Since the rise of Nazism, Jews have evinced a great deal of sensitivity towards the racial definition, even in the nonderogatory sense.

Jews as an Economic, Social or Cultural Group.—Purely historical in its importance is the definition of the Jews as an economic middle-class caste. Its most prominent protagonists were Karl Marx, and his followers, Mehring, Kautsky, Lenin, and Stalin. Untenable in view of the economic diversity of the Jewish people and the desire for national self-determination expressed at the time of the Bolshevik Revolution, this definition was not accepted in practice by the Soviet regime. Most Socialists and all Communists now adhere to the definition of Jews as a national minority. However, the Russianization policy begun in 1949 may portend the abandonment of this definition.

Definition as a social group is based on the seemingly constant factor of social separation between Jews and non-Jews. It fails to take into account the social differences within the Jewish group; nor does it give sufficient importance to religious, cultural, and other forces. Sometimes this definition is used in the sense of a community of fate (*Schicksalsgemeinschaft*), a term that is not sufficiently descriptive, for the above reasons, yet more historically correct.

Similarly, the definition of the Jews as a linguistic minority, derived from the presence of large masses of Yiddish-speaking Jews in eastern Europe (a definition supported by some Socialists), is not valid in view of the variety of languages spoken among Jews. It also disregards other factors, such as the religious and cultural. In consequence of the Nazi eradication of most Yiddish-speaking people in Europe, Yiddish was no longer the primary language of the majority of the Jews following World War II.

The definition of Jews as a cultural group is quite common in American sociological literature. In a certain sense the Jews can be said to form a culture group, just as do the Irish Americans or Pennsylvania Dutch, if one is to judge by common mores and traditions. Such a definition, however, does not cover the international aspects of the Jewish group, nor provide for the varieties of Jewish culture and ways of living, some of which have little in common with others. Most prominent among these cultures was the historical-religious-national genre, with its concentration on Hebrew and Yiddish, the latter predominant until its reduction by communism in the USSR and the near annihilation of the Jews by the Nazis and their collaborators throughout Europe. Its modern development is the westernized pattern of religious-national culture, expressed in Hebrew as well as in the languages of the majority population, and upheld by the neo-Orthodox, Conservative, and moderate Reform groups.

There were several forms of Yiddish secular culture in Europe, considerably weakened by the Nazi mass annihilation and hampered in particular by the disappearance of the Yiddish-speaking center of Poland. The Nazi invasion of Greece and Yugoslavia reduced drastically the strength of the Ladino-speaking Jews, who also evinced strong secular tendencies, which never, however, approached the extremist position of the Yiddish secularists. Several types of Hebrew culture have been developed in Palestine ranging from the minority secular-Marxist to the majority

religious-national pattern, which displays striking parallels to the milieu of the Second Commonwealth of ancient times.

Manifestations of Jewish culture among the assimilated and the semiassimilated Jews vary from the retention of occasional Hebrew and Yiddish phrases in speech, addiction to Jewish humor and cooking, adherence to philanthropic and defense organizations and nominal synagogue affiliation, to the absence of any connections with the Jewish group, except those of birth and persecution. The followers of so many cultural patterns can hardly be classified as a culture group. This term, however, helps to describe the Jews in relation to the non-Jewish majority in mono-national or "melting-pot" types of society.

Jews as a Nation (Nationality).—This definition, unchallenged until emancipation, was the one accepted by the majority of the Jews in the central and east European centers, as well as by their descendants. It is official in the USSR, Poland, Israel, and other eastern and central European states. The traditional concept of Jewish nationalism held by the majority of the Jews, however, identifies it inextricably with the Jewish religion, constituting the religious-national synthesis, so that the voluntary abandonment of Judaism for another faith generally implies departure from the Jewish group. Many Jews, particularly in Western countries, refuse to accept the definition of Jews as a nationality, preferring to classify themselves as members of the Jewish religious or cultural group. This approach is accepted mostly in countries where the term nationality (nation) is synonymous with citizenship and statehood. Some Jews are motivated by the fear of being identified with an alien group, a corollary of anti-Semitism; this in spite of the recent experiences that anti-Semitic propagandists are more apt to blame the Jews for "polluting" the native cultures, rather than for their "separateness." The tendencies of some Jews to reject the idea of Jewish nationality are consequences of the progressive abandonment of Jewish culture, learning, mores, and group solidarity, as well as of fatigue with the seeming dilemma of identification and constant threat of persecution.

Because of the many difficulties involved in the national definition, the tendency is evident in Western countries of substituting for the term "Jewish nation" and "nationality" the word "people," an expression which does not carry political connotations, yet goes beyond the other, more limited definitions. Such difficulties were rare in the multinational states of eastern Europe which adhered to a wider concept of nationality, extending it beyond the political state or citizenship. Such a definition of nationality, advocated by students of nationalism as referring to a group bound by common ties of descent, historical background, awareness of a common fate, cultural links, and aspirations of national liberation and cultural continuity, would establish the Jews as a nationality, just as the Czechs and Greeks constituted such groups even before they had regained their independence.

On the basis of either definition, the Jews in Israel possess all attributes of nationhood, including, since 1948, political independence. A number of Jewish national centers existed in the USSR before World War II. Of these, only Birobidzhan survived the war. Jews have also waged a bitter struggle for their recognition as national

minorities in Poland, Rumania, Lithuania and other countries. International recognition of the Jewish nationality in Israel has been achieved through the establishment of an independent Jewish state and its acceptance within the family of nations.

The difficulty of defining the Jewish group should by this time be obvious. It is an ancient, ubiquitous, oft-persecuted, dispersed, and seemingly permanent minority group, restricted primarily to followers of the Jewish religion, yet sometimes forced to accept individuals of Jewish descent of the Christian faith, as was the case under the Nazis. It is also diversified denominationally, linguistically, and culturally, yet united by tradition and religion. It is continually weakened by assimilation and the fear of anti-Semitism, yet forced to greater cohesion by persecution. The Jewish group managed to retain its national and religious identity through almost two millennia of dispersion and loss of statehood, under different social orders ranging from feudalism to Soviet communism. Because of its intimate connection with Jewish nationalism and its dispersion, the Jewish group developed forms unparalleled in the national movement of other nations. The Jewish group is therefore generally acknowledged by historians as presenting a unique historical development in group life, religious, cultural, ethnic and national.

To apply accepted concepts: If the term nationality or nation is employed in the wider sense as denoting a historical-ethnic-cultural group, most of the Jewish group can be classified as a nationality. If the more restricted sense is used, namely that of statehood or citizenship, or official recognition by individual states or international law, not to speak of self-determination, most Jews in the Soviet Union, in eastern and central Europe, in the Arab Near East, and in Israel, are best described as members of the Jewish nationality. It must be stressed, however, that the condition for remaining within the group, in either case, is the nonconversion to another religious faith.

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19. RELIGIOUS TRADITIONS AND CUSTOMS. Until the end of the 18th century,

practically all Jews adhered to the traditional conception of Judaism. Since that time, variations within the Jewish group have developed. Some Jews have retained the traditional regimen, while others have repudiated some parts of it. Still others have instituted modifications in the practices and have reinterpreted the traditions.

The traditional attitude was based upon the belief that the entire Jewish way of life had been revealed by God to the Jewish people, through the Pentateuch and its authorized interpreters. The interpretations of the Pentateuch are to be found in the rest of the Holy Scriptures and in the rabbinical writings, principally the Talmud in its Babylonian version edited about 500 A.D.

All types of commanded behavior were regarded equally as of divine origin, and therefore equally binding. Ethical laws and ritual laws enjoyed the same status. They were all designated as *mitzvot* (commandments). There were, in all, 613 commandments intended to guide the Jew through every moment of his life from birth to death, and from his awakening in the morning until his going to sleep at night.

Commandments for the Male Jew.—In the life of the orthodox male Jew the following important *mitzvot* are observed.

Circumcision.—In Hebrew this is called *berith milah*. This rite is referred to in the Bible (Genesis 17:10) in the following words: "Every male child among you shall be circumcised." On the eighth day of life, the foreskin of the male organ is cut by a *mohel*, a man specially trained for this operation. A *minyan* (10 males) is generally present, representing the community. At the conclusion of the rite, the child is named. Circumcision is a sign of the Covenant of Abraham, which binds Israel to God. During the operation the *sandek* (godfather) holds the infant, and just before it takes place, the infant is placed upon a special chair which is known as the chair of Elijah, in honor of the Prophet Elijah who was believed to be the forerunner of the Messiah.

Girls were officially named in the synagogue, usually on the Sabbath following birth.

Pidyon Haben.—If a boy is the first born in the family, another ceremony takes place at the end of one month. This is called *Pidyon Haben*, or "redemption of the first-born male." According to tradition, the first-born male is always dedicated to the service of God, to serve in the Temple. The parents, however, are given the opportunity of redeeming the first-born child from such service by the payment of five *shekalim* to a *Cohen* (priest), who serves for him. Since the destruction of the Temple nearly 2,000 years ago, the ceremony has persisted, and the money is usually given to charity.

Bar Mitzvah.—When a boy reaches the age of 13, he is legally an adult, and hence responsible for the observance of all those commandments incumbent upon Jewish adults. The ceremony of induction takes place in the synagogue on the Sabbath of the 13th birthday. At this time the lad is called up to the Torah (Law) and he recites the benedictions and the portion of the Law designated for that day. Usually he also chants the *Haftarah*, or portion from the Prophets of that week. Thereafter he is expected to participate in the life of the Jewish people in all its aspects.

Prayer and Prayer Symbols.—The traditional Jew recites his prayers every morning, afternoon,

and evening. During the weekdays he puts on the *tallit*, which is a prayer shawl containing the fringes, or *tsitsit*. The fringes are referred to in Numbers 15:37-41, as follows: "Let them make them a fringe upon the corners of their garments . . . that they may look upon it and remember the commandments of the Lord." In olden times, these fringes were worn on the outer garments in daily use, but later a small undergarment with fringes was substituted for this costume, known as the *tallit katan*, the larger shawl being worn only during prayers.

The daily morning prayers are also accompanied by the wearing of the *tefillin*, or phylacteries. This is referred to in the Bible: "Thou shalt bind them for a sign upon thine hand and they shall be for frontlets between thine eyes." *Tefillin* are small boxes, containing manuscripts, attached to long leather straps. One is worn on the head, the other on the left arm pointing to the heart. The manuscript in the head phylactery contains quotations from the Bible, reminding the Jews of their liberation from slavery; of the commandments to observe the Passover; the law regarding the redemption of the first born; and the basic prayers known as the *Shema*, which affirm the unity of God. The arm phylactery includes the same four selections written on one single strip of parchment.

During prayers the skull cap too is worn. This is the traditional way of showing respect. It derives from the practice of Oriental peoples in general. The very pious, traditional Jew wears the skull cap at all times, because he considers himself always in the presence of God.

Marriage and Divorce.—Since the purpose of marriage has always been to establish a home, the ceremony takes place under a *huppah* (canopy), symbolic of the home. A *ketubah* (marriage contract) is drawn up and witnessed by two Jews, neither of whom may be related to the bride nor groom. This document contains the obligations of the groom to the bride, as well as her obligations to him. The ceremony itself consists of a number of benedictions, but the actual declaration of marriage is made by the groom to the bride in these words: "Be thou sanctified unto me with this ring in accordance with the law of Moses and of Israel"; at which time the groom places the ring on the finger of the bride. The ceremony concludes with the breaking of a glass to commemorate the destruction of Jerusalem and the dispersion of Israel.

According to tradition, only the husband may institute proceedings for divorce against the wife, but she is protected by the provision that no divorce is valid unless she consents to accept it from the husband. It is customary for the rabbi to attempt to dissuade the husband from such action, but failing this, he then arranges to have the *get*, or bill of divorcement, written for him.

In traditional Jewish law the husband and wife may not have any physical contacts during the period of the woman's menstruation or for seven days thereafter. At the end of that time, the wife is required to take a ritual bath in a pool, especially designed to provide running water (*mikvah*). A bride also bathes in a *mikvah* before her wedding.

Burial and Mourning Rites.—Before the dying person breathes his last he recites the *viddui* (confession). In this confession he declares his willingness to accept death with resignation and faith, and he reaffirms the unity of

God. Upon hearing of the death of a fellow man, a Jew recites "Blessed be the true judge," thereafter performing the rite of *keriah*, that is, making a slight tear in his clothing as a sign of mourning. This, however, is not permitted on the Sabbath or holiday. It is also customary, as a sign of grief, to cover up or put away all mirrors or other decorative objects. A large candle is lighted, and renewed for 30 days (except on the Sabbath). The corpse is bathed and cleaned and prepared ritually (*taharah*). It is then placed in a simple white shroud (*tachrichim*). All burial tasks are usually performed by a volunteer society of pious Jews known as the *Hevrah Kadisha* (Holy Society). It is considered a *mitzvah* to take part in the funeral procession. A eulogy (*hesped*) is generally delivered only for distinguished men or scholars. Pious Jews arrange to have a little sack of Palestinian soil put in their coffins, and their bodies are placed in the ground so that their heads face toward Zion. Cremation is forbidden by Jewish law, since resurrection is a cardinal dogma and destruction of the body by cremation is, by implication, a denial of resurrection.

The surviving members of the immediate family then sit *shivah*, literally "seven," referring to the seven days of mourning during which they do not leave the house, remaining at home to receive visitors who come to console them. The children of the deceased recite prayers three times a day for 11 months, adding the *Kaddish*, the special prayer in honor of the dead. This prayer, in Aramaic, makes no reference whatsoever to the dead, but is a paean in praise of God, who is honored in spite of whatever may befall man. Every year the death anniversary is observed at home and in the synagogue by the lighting of the memorial lamp for the period of 24 hours. Frequently the grave is visited on that day. This is known as *Yahrzeit*, or the anniversary of the death. Memorial services for the dead are usually held in the synagogue on *Yom Kippur* (the Day of Atonement), and on the three major festivals.

At the end of the first year, a *matsevah* (memorial stone) is set up in the cemetery in memory of the deceased.

Household Symbols.—The Jewish home is first identified at the door by the *messusah* fastened to the door post. It is a small case of metal, or wood, in which a parchment scroll containing verses of the *shema* (the declaration of the unity of God) are written in Hebrew script. Upon entering or leaving the house, the pious Jew touches his fingers to the *messusah*, and then to his lips. Inside the home, hanging on the east wall of the room, may be found a *mezuzah*, a picture with verses and illustrations in praise of God and Zion. Placing it on the east wall indicates the direction of Jerusalem, and hence the direction toward which prayers are to be said. Ceremonial objects for various occasions of the year are to be found in the home.

Dietary Laws.—Every traditional Jewish home observes the laws of *kashrut* (dietary laws). These refer to the distinction between foods that may be eaten and those which may not. *Kosher* foods are permitted, and those forbidden are known as *trefah*. The laws of *kashrut* refer, first, to foods that may not be eaten at all. These include all winged insects and creeping things. Among the fish, those that have scales and fins are permitted; others, like shellfish, are forbid-



JEWISH HISTORY AND SOCIETY:

the Israelites in the desert, when they lived in *sukkot* (huts). *Center*: At the Passover Seder service, holding aloft the *matzah*, the bread of affliction eaten by Israelite ancestors. *Bottom left*: The youngest at the Seder table asks the "Four Questions," on the meaning of the Passover ritual. *Bottom right*: Reading from the Torah at the *Bar Mitzvah* service.

Photographs by Herbert S. Sonnenfeld, New York





JEWISH HISTORY AND SOCIETY

Top: Preparing the home for Passover by removing all remains of bread. (An engraving by Picart, c.1723.) Center: Hanukkah lamps, Germany: (left) 1814; (right) 18th century. The Hanukkah lights are kindled for eight days, commemorating the Maccabean victory over the Syrian Greeks and the rededication of the Temple in 165 B.C. Bottom: A 17th century scroll of the Book of Esther. Read on Purim, it recalls the escape of the Persian Jews from annihilation by Haman.

(Top) The Bettmann Archive; (center) Hebrew Union College; (bottom) Jewish Museum

jen. Among mammals, only those which have cloven hoofs and which chew the cud are permitted. Others are forbidden. In the family of fowl, certain specific birds are forbidden, including vultures, hawks, owls, ravens, storks, bats, and others.

Then there are those foods which are forbidden because they have not been prepared in the proper manner. Meat must be slaughtered according to the rules of *Shehitah*. The slaughtering is done by a *shohet*, who has been specially trained to kill the animal according to the law. This is generally done by slitting the throat in one swift, painless stroke, permitting all the blood to flow out of the body. Blood may not be eaten in any form because, according to the Bible, blood is life. In order to make sure that all the blood has been removed, meat is soaked in water half an hour, kept in salt for a full hour, and then thoroughly rinsed. Even eggs which contain blood spots are forbidden by Jewish law.

Another phase of *kashrut* is the separation of milk and meat, based upon the Biblical statement, "Thou shalt not seethe kid in its mother's milk." From this one law there developed a complex of laws based upon the separation of all meat from all dairy food. The pious Jew waits six hours after a meat meal before eating any dairy food. The separation of milk and meat extends to the use of two sets of dishes in the home—one for meat and one for dairy, as well as two sets of pots and pans, and two sets of towels.

Prayers for Special Occasions.—Before each meal the blessing is recited: "Blessed art Thou, O Lord, our God, King of the Universe, who bringest forth bread out of the earth." After each meal, a longer grace is recited; special additional prayers are included when three males, or more, eat together (*Mezuman*). Prior to the grace on weekdays, Psalm 137 is recited; Psalm 126 on Sabbath, festivals, and holidays. In addition, special blessings are prescribed for special events as they may occur. For example, when a pious Jew sees the trees of spring, or the ocean for the first time, meets a friend after a long absence, or observes any natural phenomenon like the rainbow, or meteors in the sky, he recites the blessing appropriate to the occasion.

Festivals and Holy Days.—The Sabbath is the great day of the week. During the six days, the traditional Jew looks forward to the Sabbath with eagerness. On Friday afternoon, *erev Shabbat*, he sets aside his work earlier than usual and repairs to the synagogue. When he returns home, he finds that his wife has kindled Sabbath lights, and has placed on the table a white cloth, special *hallot*, or twisted loaves of bread, and wine for *kiddush* (the sanctification chant of the Sabbath). He places his hand on the head of each child in turn, and blesses them. He also chants the verses from the 31st Chapter of Proverbs, in praise of his wife. A special meal is served, after which *zemirot* (distinctive songs for the Sabbath table), are sung, before the closing grace. Every traditional Jew believes that on the Sabbath he possesses a *neshamah yterah*, an additional soul, with which to greet the Sabbath in joy.

No work is permitted on the Sabbath day. The tradition is to consume three full meals on the Sabbath. The third meal was called the *seudah shelishit*, frequently partaken of in the synagogue, together with the community. After sunset, the Sabbath is bidden farewell with a cere-

mony known as *havdalah*, meaning "separation." In Jewish tradition, the peace and serenity of the Sabbath are a foretaste of the bliss of the world to come.

Aside from the Sabbath, the major Jewish holidays are Passover, Pentecost, New Year's Day, the Day of Atonement, and the Feast of Tabernacles. Passover (*Pesach*) is observed in the springtime, in memory of the emancipation of the Jews from Egyptian bondage. Pentecost (*Shabuot*) commemorates the revelation of the Torah to Israel on Mount Sinai. New Year's Day occurs early in the fall. It is called *Rosh Hashanah*, and is the beginning of the religious year, a time of stock taking and heart searching. It is followed 10 days later by the Day of Atonement (*Yom Kippur*), a day of fasting and penitence. The Feast of Tabernacles (*Sukkot*) is celebrated to commemorate the wandering of the Israelites in the desert, when they were forced to live in *sukkot* (huts).

Each of these special occasions has its distinctive rituals. Passover is associated with the *Seder* (family service), at which the *Haggada* is recited, telling the story of the Exodus. The distinctive food is the *matsah*, the unleavened cake, recalling the bread of affliction eaten by Israelite ancestors. On *Shabuot* the synagogue is gaily decorated with flowers in commemoration of the early harvest in Palestine. *Rosh Hashanah* brings with it the blowing of the *shofar* (ram's horn), which is symbolic of warning and hope. The *Sukkot* festival is distinctive by virtue of the *sukkah* itself and the palm branches (*lulav*) and citron (*ethrog*) which are carried in procession in the synagogue.

The best known special prayer said on any of these occasions is the *Kol Nidre*, recited on the eve of *Yom Kippur*. When this prayer is recited, the traditional Jew feels that he is at the most solemn moment of the entire year. In this prayer he prays for release from any vows which he may make in moments of emotional excitement, which may alienate him from his fellow men.

Minor festivals are: *Purim*, which occurs in the spring, recalling the escape of the Persian Jews from the annihilation at the hands of Haman; and *Hanukkah*, the feast recalling the rededication of the Temple after the Maccabean victory over the Syrian Greeks. On *Purim*, the Book of Esther is read in the Synagogue; on *Hanukkah*, lights are kindled for eight days, recalling the rededication of the Temple (165 B.C.). In midsummer there is a fast known as *Tisheah B'ab*, which recalls the destruction of the Temple in Jerusalem in the year 586 B.C., and again in the year 70 A.D. In addition to fasting, the day is observed by the recital of the Book of Lamentations.

The Synagogue Service.—When the ancient Temple in Jerusalem was destroyed, the Jews developed the institution of the synagogue which enabled them, wherever they might find themselves, to carry on their worship and their study. The synagogue took over, in modified form, many of the practices of the original Temple; and because traditional Jews never ceased to hope that the Temple would be rebuilt, all synagogues were "oriented" toward the east, and all prayers were recited while facing in that direction. The distinctive objects in the synagogue are the *ner tamid* (the eternal light), symbolizing the eternity of the faith of Israel; the *aron hakodesh* (holy ark), containing the parchment of the Pentateuch, read

on Mondays, Thursdays, Sabbaths, and holidays before the congregation; and the *bimah* (platform), from which the service is conducted. Any Jew is permitted to conduct the service if he knows how to do so. However, most synagogues have a *hazzan* (cantor), who is versed in the traditional melodies and texts of the various services throughout the year. Each day, three services are held—the *shaharit* (morning service), *minhah* (afternoon service), and *maariv* (evening service). The first two are in keeping with the Temple ritual, where morning and afternoon sacrifices were offered daily. The evening service was a later innovation.

General Concepts.—In Jewish tradition, the complex of rites and observances contained in the Torah is obligatory upon all Jews, but the ethical ideals are universal in scope. Thus, for example, the seven so-called Noachian Laws are considered the basis of all human living. They included the ban on murder, theft, cruelty to animals, sexual license, blasphemy, idol worship, and civil injustice. Non-Jews who observe them are looked upon as the "righteous of the people of the world." Jews are taught that if they are faced with danger of death by virtue of their adherence to Judaism, they are permitted to neglect *mitzvot*, except the law against murder, sexual license, and idolatry.

The observance of the law is put into the category of *kiddush hashem* (sanctification of the name of God). This implies that Jews should regard themselves as representatives of God on earth; therefore, any wrong action by them is a reflection on the power of God over human beings. *Zedakah*, commonly translated "charity," really has its root in the word "justice." What is implied is that society owes to the unfortunate the security and sustenance which all desire. It therefore becomes the responsibility of all who can, to support those needing help. As a rule, a Jew is expected to give one tenth of his income (*maaser*) to charitable purposes.

The great ethical treatises composed since the time of the Talmud (500 A.D.), stress the importance of avoiding the sin of *leshon hara* (the evil tongue, or slander).

The Jewish Home.—Hospitality is highly regarded. The ancestor Abraham, who entertained his guests in his tent, is held up as the prototype of the hospitable man. It is the custom on the Sabbath, and particularly on Passover, at the *Seder*, to ask guests to one's home.

The Jewish home is perhaps the main bulwark of Jewish morality. The command, "Honor thy father and thy mother," is taken very seriously. Peace in the home is held to be of paramount importance. The Talmud says, "God's presence dwells in a peaceful and loving home." The ideal Jewish mother has always been considered the one who lives up to the standards prescribed in Chapter 31 of Proverbs (Verse 10-31). She is the *eshet hayil* (woman of worth). The father is bound to teach his son a trade; if not, says the Talmud, he brings him up to be a thief. It is also the father's duty to give his child an education. Many statements in the literature indicate that it is considered wrong for a Jewish family to live in a community which has no school.

Jewish Traditions in Modern Times.—Traditional Judaism is, therefore, a way of life which endeavors to make virtually every action of the Jew a means of rendering himself holy. All the rituals are intended to remind him that

he is the servant of God, and so must honor his fellow man and live in accordance with the highest ideals.

Since the beginning of the 19th century, the traditional way of Jewish life has broken down to some extent. Due to new social, economic, and political conditions, the integrity of the Jewish community was destroyed. As a result of the new cultural and intellectual challenges, many Jews began to question the fundamental assumptions of traditional Judaism. In order to adjust themselves to these new conditions of emancipation and enlightenment, several different versions of Judaism developed.

(1) The Orthodox group continues to reaffirm the basic belief in the revelation of the Torah and its authority over all Jews. Strict adherence to the tradition is advocated.

(2) The Reform group has urged the abandonment of those rites and practices which set the Jew apart from his neighbor to too great an extent. Reform leaders have urged that only those rites and traditions be retained which have a direct religious or ethical significance. Hence, while they have retained the Sabbath, they have relaxed the stringency of its observance. They have abolished the *pidyon haben*; they have neglected the use of the phylacteries and the *tallit* (head covering). In their marriage ceremony, the *ketubah* has given way to a simple marriage certificate. Reform Jews omit the use of the *huppah* and the breaking of the glass. Dietary laws have been given up. Many of the restrictive rules of the Sabbath have been abolished and many of the holidays have been shortened from two days to one.

There is also greater stress on the ethical message of Judaism among the Reform group, and a lesser emphasis on its ritual manifestations. In recent years, however, the Reform group has begun to readopt several of the traditional practices of Judaism and to revive some of the folk mores of the past. Without them, Judaism ceases to be a religious way of life, and is reduced to an abstract religious philosophy.

(3) The Conservative group is midway between the Orthodox and the Reform. Believing in retaining a maximum of the tradition, its leaders are nevertheless aware of the need for adaptation to new conditions. Thus far, however, they have not clarified just which traditions are to be kept and which are to be given up.

(4) The Nationalists retain many of the traditions and customs of the Jewish people, but dissociate them from the religious significance which they originally conveyed. They wish to retain the Jewish way of life on purely national or ethnic grounds.

(5) A new movement known as Reconstructionism, the youngest of all of those mentioned, urges the reinterpretation of traditional observances, where such reinterpretation is possible, rendering them meaningful for modern times. It favors the abandonment of those which are completely obsolete, but also stresses the need for new creativity in Jewish life, and for the formulation of practices to help articulate new experiences and ideas.

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20. EDUCATION. The Traditional Pattern.—The classic system of Jewish education was based on Biblical injunction and on rabbinic tradition. The Bible places the obligation to teach them diligently to thy children" immediately after the obligations to "love thy God with all thy heart" and "love thy neighbor as thyself." This educational behest the ancient Jews took very seriously. Pilgrimages of parents and children to the Temple in Jerusalem, missions of Levites and prophets to the local communities, and private and public celebrations of historic religious festivals were all concerned with the fulfillment of the injunction "to teach and to study."

During the Second Commonwealth, in the centuries before the destruction of the Temple, the study and teaching of Torah (law, literature, and lore) were made the primary religious duty of every Jew, more important even than worship and charity. Learning became the cherished occupation, "dearer than fine gold"; and the "disciples of the wise" became the honored class in the community. As early as 66 B.C. the High Priest Joshua Ben Gamla laid the foundation for a universal, compulsory system of elementary schools for Jewish boys, to be maintained either by the parents or by the community. After 70 A.D., when the Jews were dispersed in the Roman-Parthian world, they carried with them their three great social inventions: the synagogue, their compulsory school system based on divine behest, and their sacred literature as the common textbook. In postexilic Palestine, and more especially in Babylonia, they developed academies of Talmudic learning, the "great Yeshivahs," which encompassed in their studies the entire scope of life and knowledge, as interpreted in the light of Biblical tradition. These Yeshivahs became the prototypes of similar Jewish academies in all the lands of Jewish dispersion, throughout the Middle Ages and in modern times. They were the capstones of an educational system which rabbinic writings prescribed in definite outlines.

As soon as a child could talk clearly, he was to be taught simple prayers and the alphabet. At the age of five he began to study the Scriptures, and at the age of 10 the Mishnah (commentaries and derived laws). From then on he was to proceed, as rapidly as his capacities permitted, to the study of rabbinic literature, in which he continued throughout his life. The obligation of daily, lifelong study was not for the learned alone; even the humblest laborer was commanded to set aside some part of the day for study, in accordance with his individual capacities. The texts studied were in Hebrew and in Aramaic; but usually the vernacular of the particular country was used as the medium for teaching and discussion. Where parents could pay for the instruction, their children went to private school, the *heder* (schoolroom). For other children, the community maintained the Talmud Torah (school for the study of the Torah). Every community, however poor, sought to maintain at least one Yeshivah, on a secondary or higher academic level, for its adolescent and adult students. Itinerant students (*bahurim*) came from Yeshivah to Yeshivah in quest of knowledge.

Modern Tendencies.—Within the last two centuries Jewish education was profoundly influenced by three new, powerful forces: (1) the enlightenment (*Haskalah*), which stemmed from the liberal, cosmopolitan rationalism in the latter half of the 18th century; (2) political emancipation, as it spread during the first half of the 19th century; and (3) European nationalism, developed during the latter half of the 19th century. New types of Jewish schools were established by Western "reform" Jews, fashioned at first after the *philanthropin* academies of central and western Europe. Later they became supplementary religious schools or classes wherever the general government schools accepted Jewish children as pupils. In eastern Europe, Jews also began to establish modern schools, but these existed side by side with the traditional schools and were strongly nationalist in spirit.

The Jewish nationalist schools took two main forms: (1) the Hebraic-Zionist *Heder Metukan* (improved school) which, in addition to the classic curriculum, stressed modern Hebrew language and literature and the national renaissance in Palestine; and (2) the *Yiddische Folkskule*, which made Yiddish (a Judeo-German vernacular language) and its literature the main subjects of study. The Yiddish school, in its extreme form, went very far afield from the classic educational Jewish tradition, both in secularizing its spirit and in revolutionizing its content. This was especially true in Russia.

From these main types there were many variants, the most important of which was the bilingual school (as in Lithuania and Poland) in which Jewish subjects were taught through the medium of modern Hebrew or Yiddish, and secular subjects in the language of the country. In Palestine, the new Yishuv (Jewish settlement) developed a full-fledged Hebrew public school system, from kindergarten to the university, comparable to modern school systems elsewhere.

Jewish Education in America.—When the Jews came to America, they brought with them their educational traditions and institutions, and adapted them to conditions in the new land. The earliest American Jewish school was established in 1731 by the community of Sephardim, the Jewish settlers who stemmed from Spain and Portugal. This school, the Yeshivath Minhath Areb, of the New York congregation, Shearith Israel, was a typical colonial school. When the German Jewish settlers began to come in large numbers during the middle of the 19th century, the schools they established followed at first the existing patterns of the church-supported schools and the private academies. Later, with the spread of the American public school system, the Jews eagerly sent their children to the government public schools and converted their own schools into Sunday schools, after the model of the Protestants.

The eastern European Jews, whose large migration began with the latter part of the 19th century, brought with them the entire gamut of their educational institutions: the *heder*, the Talmud Torah, the Yeshivah, the national Hebrew school, and the *Yiddische Folkskule*. Most of these schools were conducted in the afternoon and evening, as well as on Sunday morning. They were supplementary to the public schools which the children attended. Beginning with the 1930's however, the number of "integrated," all-day or parochial schools increased steadily, particularly among the orthodox.

There are three main types of Jewish schooling in America: (1) the Sunday schools (Reform and Conservative); (2) afternoon weekday schools (Conservative, Orthodox, and Nationalist); and (3) all-day or parochial schools (mostly Orthodox and Nationalist). It was estimated in 1946, that of the 600,000 Jewish children of elementary-school age, 30 per cent received Jewish education at any one specified time, but a considerably larger proportion, probably 70 to 80 per cent, received some Jewish instruction at some time during their childhood. The pupils taught in American Jewish schools were roughly divided as follows: 75 per cent attending weekday afternoon schools; 20 per cent attending Sunday schools; and 5 per cent attending all-day or parochial schools. These proportions continued into the secondary or high school level.

While there is a very wide variation of curricula and methods of instruction in these schools, there are certain common elements which are basic, however wide the latitude of interpretation and selection of materials. All American Jewish schools teach or strive to teach: (1) Torah, the classic tradition in its literary and institutional forms; (2) the Hebrew Language (some schools also teach Yiddish); (3) the history and status of the Jewish people; (4) Palestine, past and present; (5) Jewish customs and folkways; (6) the American Jewish environment: current problems and institutions; and (7) Jewish faith in divine purpose and human betterment. These basic elements are variously interpreted and stressed by each school and by each group of schools.

A number of Jewish institutions of higher learning have developed, which represent the culmination of each of these school types. They conduct courses for the training of rabbis, teachers, and scholars. The most important are: The Hebrew Union College in Cincinnati, established in 1875 by the Reform congregations; The Jewish Theological Seminary, established in 1886 (Conservative); Dropsie College, Philadelphia, 1907 (for postgraduate research); Jewish Institute of Religion, New York, 1922 (Reform Zionist); Yeshiva University, New York, 1915, and Hebrew Theological College, Chicago, 1922 (Orthodox Zionist); Yeshivah Torah Vodaath, New York (Orthodox non-Zionist); and Yeshivah Tomche Tmimim, New York (Orthodox Hasidic). The Hebrew Union College (Cincinnati), and the Jewish Institute of Religion (New York) have merged to become the only Jewish Reform seminary in the United States.

In addition to the formal schooling given by Jewish schools and congregations, much educational work, both formal and informal, is done by organizations and institutions dealing with youth. Among these are the Young Men's Hebrew Associations, the B'nai B'rith, and the various Zionist and other party organizations. The social service institutions which concern themselves with child care have given increasing attention to the Jewish education of their charges. There is also considerable study of Hebrew and Judaism in American colleges and public high schools, particularly in New York City.

Alongside this diversified system of Jewish education in the United States there are unifying community educational agencies consisting of bureaus, boards, committees, or associations. The function of these bodies is to deal with the common aspects in American Jewish education, such

as financial matters, teachers' welfare, publications, standardization, and experimentation. The first of these community agencies was the Bureau of Jewish Education in New York City, established in 1909 under the pioneering leadership of Samson Benderly, and later merged with the Jewish Education Committee of New York. By 1950 there were 40 such unifying educational agencies, most of them in cities and towns, but some covering counties and states. Maintained by Jewish community councils, welfare federations, or special associations, these agencies seek to cooperate with all of the diversified Jewish school groups in their respective communities. They aim to improve the work of the schools without interfering with their particular backgrounds or outlooks, and to expand educational facilities to meet the needs of American Jewish life, in the spirit of the democratic environment and of the classic Jewish tradition.

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21. COMMUNITY ORGANIZATION AND SOCIAL WELFARE. Jewish community organization in modern times reflects the tremendous changes which have taken place in the world and within the Jewish community since the beginning of Jewish emancipation at the end of the 18th century. The medieval state's utilization of the Jewish community as the fiscal agent and controlling instrument of all the Jews was discarded by the rising modern state. The new national states either fought the established Jewish self-government bodies in order to weaken their hold over the individual, or tried to control the communities, limiting their competence to religious and philanthropic spheres. Restricting the power of the communities to the religious-philanthropic area, however, was almost impossible, due to the difficulty of separating the Jewish national-cultural elements from the strictly religious ones. Moreover, migrations and the impoverishment of large sectors of Jews by 20th century persecutions increased the importance of the philanthropic organizations and defense bodies against anti-Semitism.

The most striking change since emancipation was the decline of "integral Jewry." In the Western countries, the individual Jew's identification with the Jewish community was generally reduced to nominal religious connections. In the eastern European countries, the enlightened elements among the Jews usually abandoned the religious identification, substituting for it purely nationalist criteria. Nevertheless, large sectors of the population either retained their age-old integral Judaism, or attempted to modernize Jewish life without entirely abandoning tradition.

In eastern Europe, socialism and communism influenced specific Jewish schools of thought.

Zionism was another, even more powerful influence. Desire for recognition as a nationality also motivated powerful movements among the Jewish masses. Social conflict within the Jewish community itself was apparent in the attempts toward democratization. Thus, Jewish community organization in the 20th century not only reflected the breakdown of the traditional Jewish settlements everywhere, but was also conditioned by the powerful forces afoot in the world at large.

Forms of Community Organization.—Napoleon I evolved the consistory system of Jewish organization, concerned almost exclusively with religious matters and charities. This system continued, with modifications, until the separation of church and state in France in 1905. Czarist Russia replaced the ancient *kahal* in 1844 with "Jewish committees" which, resisted by the Jews, were designed to serve the state primarily, rather than the Jewish community. In Russia, the 20th century brought agitation for the community organization of Jews as a national minority, with an autonomous national representative body based upon democratic local units (*kehillot*).

Following the March 1917 revolution, this system of community organization came into effect in Russia and the Ukraine, but was abolished by the Bolshevik regime. In Lithuania, Jewish national autonomy was realized until 1924, through a Jewish National Council and a minister of Jewish affairs. The government of Soviet Russia, which had abolished the democratic *kehillot* in 1919, set up substitute bodies—such as the *Yevsektsia*, *Yevcom*, and *Gezeder*—most of which were short-lived. In Birobidzhan and the Jewish national regions of the Ukraine, community organization was based on municipalities and villages. In 1946 the number of existing religious Jewish communities based on Soviet law was estimated at 76, a drastic reduction due to the German invasion. As a result of the wartime stay of Polish Jewish immigrants, there was some increase in clandestine religious education and unofficial philanthropic work among Soviet Jewry which had no central religious or secular organization, or religious schools.

Most post-Versailles states in eastern Europe limited the Jewish community to strictly religious and philanthropic functions. Thus, in Poland, the 1927 community ordinance provided for compulsory taxation and the maintenance of *kashrut* (ritual preparation of food), religious education, and social services, by democratically elected community boards.

Before Nazism, Jewish communities in Germany usually enjoyed the right of corporations in public law, with the privilege of taxation on the basis of civic lists, as well as ample autonomy. The Nazis introduced compulsory community set-ups based on the Nürnberg Laws. These communities, however, showed both vitality and courage, carrying on forbidden functions of education, underground contacts, and escapes. In the final liquidation stage, the European communities under Nazi rule were perverted into virtual auxiliaries for their own annihilation.

Modern Palestine developed a new and many-sided, integral Jewish community organization. Before the establishment of the State of Israel, almost all the Jews, with the exception of the ultra-orthodox Agudath Israel, voluntarily belonged to the community of Jews known as Knesset Israel. Their secular and democratically

elected Vaad Hanivcharim (Assembly of Delegates) in turn elected the Vaad Leumi (Jewish National Council), spokesman for the Jewish community under the mandate. The Knesset Israel levied taxes for education, social work, and the rabbinate. Its ecclesiastical branch consisted of the Rabbinical Council and the rabbinical courts. With the birth of the State of Israel on May 14, 1948, the first Jewish state came into being since the destruction of the ancient Jewish commonwealth by the Romans. The organs of self-government which developed in Israel—including a Knesset (Assembly), a civil service, an army, and other features of state machinery—embodied much of the experience and personnel of the Jewish community organization under the mandate.

In the United Kingdom, with a legally recognized Jewish community, the United Synagogue unites the majority of the Ashkenazic (German-East European) congregations. The chief rabbi is official head of most communities, while the Board of Deputies of British Jews is spokesman for most religious and secular organizations.

Community Organization in the United States.—In the New World, where Jewish emancipation was granted without conditions, community organization assumed a wide diversity of forms, varying from city to city, and usually without effective central bodies. Generally speaking, the evolution of Jewish community organization began with the voluntary religious congregation or burial society. This was followed by benevolent organizations, fraternal orders, credit societies and, later, recreational and cultural organizations. Though only one or two generations apart as settlers, a struggle for leadership and control of the Jewish community developed between the earlier German minority and the later east European majority. The descendants of the earlier immigrants usually concentrated on coordinated philanthropies and the Reform movement. They had a tendency to view the Jewish community from a strictly denominational viewpoint, and to frown upon movements of Jewish cultural retention, such as Zionism and orthodoxy. The conflict between these various factions, however, diminished with the numerical decline of the minority group, the implications in the debacle of European Jewry, the achievements of Zionism, and the growing fear of reaction.

The Jewish community of the United States after World War II constituted about five million out of the reduced postwar Jewish population of 11 million. It presented a great variety of communal organizations and institutions. Most congregations were Orthodox. There were three central congregational organizations representing the three religious groupings—the Orthodox, the Reform, and the middle-ground Conservative. These united in a central religious spokesman—the Synagogue Council of America. In addition to theological seminaries and teachers training schools, there were several school systems in which most Jewish children received some part-time education, with a considerable growth of all-day schools.

Early benevolent societies gave way to thriving fraternal orders. The *landsmanshaften*, relief societies established on the basis of the immigrants' geographical origin, were active in overseas and local philanthropies. The threat of anti-Semitism in the United States caused a large investment of the Jewish community's funds and energies into movements for strength-

ening democracy through the so-called defense groups or community relations bodies.

According to the Jews' tradition of caring for their own, each Jewish community of any size maintained a variety of institutions, such as relief and social-work organizations. In addition to the religious, charitable, and educational establishments, there were local branches of the national fraternal orders, Zionist groups, student organizations, and other youth units. The tendency to federate for the purpose of fund raising and management was evident in the development of the Welfare Fund, an instrument for campaigns and the distribution of all local, national, and international appeals. Much of the community's budget was devoted to overseas relief. The local community council began to evolve into an overall body, representing all organizations, with the Jewish community center as the geographical focus of its activities.

A major problem of the Jewish community was the lack of an authoritative and democratically elected central representative body. The American Jewish Conference, established for the solution of problems arising from World War II, had no jurisdiction over communal matters, but represented the majority of the Jewish community in the United States after 1943. The World Jewish Congress claimed the adherence of central representative bodies in most countries; the 1948 session at Montreux, Switzerland, was attended by representatives from 60 nations. The World Zionist Organization, however, was the best-established, international central body.

Central representative bodies have developed in Canada and in the Union of South Africa, as well as in postwar Europe. Everywhere community organization tended to take over the functions of planning for Jewish defense and cultural-religious survival. The trend toward a democratic form of central representation testified to the abandonment, by affiliated Jews, of the laissez faire community of the 19th century, and the return to a more integral concept of community organization.

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22. SOCIAL AND ECONOMIC DEVELOPMENTS IN THE 19TH AND 20TH CENTURIES. The epoch of Jewish emancipation can be divided into three periods: the period of ascent (1800-1914); the period of crisis (1915-1932); and the period of catastrophe (1933-1945). Historians may later add a fourth—the period of readjustment and renewal, commencing in the years after World War II and highlighted by the birth of the State of Israel in 1948.

The period of ascent was characterized by a rapid increase of population among Jews all over the world and by a large-scale migration of Jews to new continents and countries. New occupational and social groups emerged among the Jews, including the middle-class professionals and the modern working class. A Jewish *bourgeoisie* of considerable economic significance developed. The non-Jewish world generally tended to incorporate the Jews within the general economic, political, and cultural life and to assimilate them. This evolution was not a steady process; it was often interrupted by waves of anti-Jewish riots and pogroms all too reminiscent of the Middle Ages. Seen as a whole, however, this period can be described as one of upward growth, on a scale unparalleled in the Diaspora period of Jewish history.

The period of crisis was marked by a general falling off of the birth rate among Jews throughout the world, and especially in the countries of western Europe. An intense movement took place in most European countries to oust Jews from their economic positions and isolate them from the general political and cultural life, thereby resulting in widespread insecurity among the Jewish masses. This era was also characterized by the growing, tragic discrepancy between the increasing need for Jewish emigration from the hardship areas, and the constantly shrinking possibilities of immigration to the more hospitable centers.

In the period of catastrophe, the elimination of Jews from the general life of most European countries proceeded with greater and greater ruthlessness, culminating, during World War II, in the slaughter of two thirds of European Jewry and the expropriation of most of the survivors.

This division into periods applies mainly to the countries of central and eastern Europe which harbored about six million Jews, or approximately two thirds of European Jewry. Quite different was the lot of the small Jewish communities in the countries of northern and western Europe, totaling only one million Jews. Different, too, was the position of Soviet Jewry, whose economic dislocations and national disintegration were caused, not by persecutions of Jews, but by factors of a general nature. Altogether different was the evolution of Jewish communities in the countries of immigration, such as the United States and Palestine, where the process of economic and cultural ascent had not fully set in until after World War I, reaching a peak in the years during and after World War II.

Crisis of Jewish Population.—The growth of the world Jewish population since 1800, and the disaster that overtook it at the end of an epoch of emancipation, are shown in Table 1.

Table 1—WORLD JEWISH POPULATION

Year	Population
1800	2,500,000
1825	3,280,000
1850	4,750,000
1880	7,650,000
1900	10,600,000
1914	14,000,000
1939	16,725,000
1946	10,750,000
1949	11,000,000

The catastrophe of European Jewry shortly before and during World War II amounted to an annihilation of almost six million Jews. From the cold, historical viewpoint of group survival,

even figures of such proportion do not measure the full and potential extent of the evil; for the chief victims of the Nazi murderers were east European Jews with a particularly vital Jewish consciousness and a high birth rate. According to the areas of original residence, the numbers and percentages of Jews of the various European communities who perished between 1939 and 1945 were as shown in Table 2.

Table 2—JEWISH DEAD IN EUROPEAN COUNTRIES UNDER AXIS DOMINATION

Country	Jewish population in 1939	Total Jewish dead ¹	
		Number	Per cent
Poland.....	3,250,000	2,850,000	87.7
USSR ²	3,050,000	1,350,000	44.3
Rumania.....	850,000	425,000	50.0
Germany.....	504,000 ³	250,000	49.6
Hungary.....	403,000	200,000	49.6
Czechoslovakia.....	380,000	280,000	77.8
France.....	240,000	120,000	50.0
Austria.....	175,000	70,000	40.0
Lithuania.....	155,000	135,000	87.1
Holland.....	120,000	80,000	66.7
Latvia.....	95,000	86,000	90.5
Yugoslavia.....	75,000	60,000	80.0
Greece.....	75,000	62,000	82.7
Belgium.....	55,000	30,000	54.5
Italy.....	57,000	12,000	21.1
Bulgaria.....	50,000	7,000	14.0
Denmark.....	6,000	2,000	33.3
Estonia.....	5,000	4,000	80.0
Luxembourg.....	3,000	2,000	66.7
Norway.....	2,000	1,000	50.0
Total.....	9,530,000	6,026,000	63.2

¹ The number of victims comprises only the old-established Jewish inhabitants of the country. The refugees, for example, the German Jews in France, Belgium, and Holland, are credited to their country of origin. ² The percentage of victims in the Soviet Union is based on the total number of Jews in that country in 1939. However, not all of the Soviet Union was occupied by the Germans. ³ We take only the occupied regions, which contained only 100,000 in 1939, the percentage of Jewish victims amounts to 64.3. ⁴ 1933. ⁵ 1940.

The Germans were not alone in organizing and supervising this slaughter; they were aided by many other nationals—chiefly in eastern Europe—including Ukrainians, Lithuanians, White Russians, Croats, Rumanians, and Hungarians. Hitler's selection of Poland as the mass grave of Jews from almost all of Nazi-occupied Europe was no accidental choice. The contrast in the extent of the catastrophe in the east and in the west was a significant aspect of the tragic picture. Of approximately a million Jewish children under 14 years of age in prewar Poland, only about 10,000, or one per cent survived; while of 60,000 young Jewish children in France, at least 20,000, or one third, remained alive. The somewhat "mitigated" extermination in the western countries, such as France and Belgium, was due, at least in part, to the fact that the Jews were often afforded protection from the Nazis by the non-Jewish population.

Distribution of the World's Jewish Population.—In the 19th century the Jews were a predominantly European people. Though there were small Jewish communities in Asia, North Africa, and the Western Hemisphere, these centers comprised an insignificant percentage of world Jewry and did not play a significant role in Jewish cultural life. During the last quarter of the 19th century, the geographical distribution of Jewish population began to change, and during the first quarter of the 20th century the process of alteration became accelerated. This change in distribu-

tion was still an organic process, however, with the center of world Jewry gradually shifting toward the American continent. The catastrophe of World War II mechanically transformed the Jews, numerically speaking, into a predominantly American community.

Table 3—DISTRIBUTION OF JEWS BY CONTINENTS

Continent	Per cent of world Jewish population			
	1800	1875	1939	1950
Europe.....	76.9	87.5	56.8	25.3
Asia.....	13.4	5.0	6.2	15.5
Africa.....	9.6	4.1	3.7	6.2
Americas.....	0.1	3.3	33.1	52.7
Australia.....	...	0.1	0.2	0.3

Although comparisons for different periods cannot be strictly accurate because of the shifting of political boundaries, rough estimates may serve to show the great changes in distribution of Jewish population by countries. In 1840 there lived in the six nations of Russia, Rumania, Germany, Austria, Turkey, and Hungary, more than 92 per cent of world Jewry, as compared with less than 20 per cent in 1950. In Germany and Austria the Jewish population in 1840 constituted 18.2 per cent of world Jewry; in 1950 there were only 20,000 Jews in German towns with functioning Jewish *gemeinden* (communities), while only 12,000 Jews were registered with the *gemeinden* of Austria in 1950. In 1840 the ratio of Jewish population in Russia to world Jewry was 51.1 per cent; in 1950 this proportion had dropped to 16.3 per cent for the combined Jewish population of Soviet Russia and Poland.

In 1950 the United States contained about five million of the estimated 11,000,000 Jews in the world, as compared with 1.9 per cent for all the English-speaking countries in 1840. This development signified more than a mere geographical shift; it had definite socio-economic and, primarily, linguistic and cultural aspects. In the Slavic countries, which in 1840 harbored over two thirds of world Jewry, the assimilating power of the dominant culture group was very limited. Moreover, the Ukrainians, White Russians, Lithuanians, Letts, Czechs, and Poles, among whom the Jews lived, were long subjugated politically. In contrast, the assimilating capacity of the culturally and politically advanced English-speaking nations proved to be incomparably greater. The tendencies toward Jewish assimilation have thus been far more marked in the English-speaking countries and have had a consequent effect upon the character of the Jewish groups within those countries.

In 1840, Jews lived in some 20 countries. Following World War II, however, Jews were dispersed among more than 90 countries. Nearly two thirds of world Jewry, nevertheless, were to be found in two nations, the United States and the Soviet Union. A third new center, the State of Israel, contained more than a million Jews at the end of 1949. The number had nearly doubled in the five years since 1944, the new settlers having come chiefly from eastern Europe and the displaced persons camps of Germany and Austria.

Urbanization and Concentration.—The Jews are the most urban and the most metropolitan people in the world. This is particularly true of the Jewish population in the United States. In 1948 the 10 largest cities of Jewish population in the United States harbored over 3,260,000 Jews, or more than three fifths of American

Jewry. Of Soviet Jewry, 42 per cent lived in the 5 largest cities of the Soviet Union in 1939. Before World War II, about 18 per cent of all Polish Jews lived in the two cities of Warsaw and Lodz, representing 30.8 per cent of all the inhabitants of those cities. Half of prewar Hungarian Jewry lived in the one city of Budapest. In 1948, two thirds of all British Jews lived in London; while over half of French Jewry were to be found in Paris. In several postwar eastern European countries, Jews tended to disappear entirely from villages and small towns, which, for a time, lacked elementary conditions of personal safety. In the new State of Israel, about half of the Jewish population in 1949 lived in the three cities of Jerusalem, Jaffa-Tel Aviv, and Haifa. The young Jewish state, however, promoting agricultural settlement in collectives and smallholders communities, had the highest percentage of Jewish village-dwellers.

Economic Development, 1800-1914.—The technical and industrial revolution of the 19th century, generally speaking, made the urban classes the dynamic classes in human history. At the same time, industrial capitalism produced the most favorable conditions for the oldest of urban peoples, the Jews, opening large possibilities for their accumulated financial and trading experience. After centuries of wandering as an alien, urban people among firmly settled farming populations, the Jews found themselves in the dynamic world of capitalism and industrialism. Occupations which had formerly alienated them from the surrounding populations became respected and valued functions in the life of nations. The rapidly growing urban classes opened their ranks to the Jews, who possessed not only the qualifications of commercial experience but also the important asset of liquid capital.

The influence of Jews in the evolution of capitalism differed widely in different countries. In western Europe and the United States, where Jewish immigrants found capitalism already highly developed, Jews assumed an important place side by side with the business classes of the majority populations. In Great Britain, Jews played a prominent role in assuring British control of foreign markets through the medium of British capital. In the first half of the 19th century the banking firm of Rothschild granted 44 foreign loans to 20 countries (including Prussia, France, Russia, Brazil, and Greece) aggregating over £130,000,000, in those times an exceedingly large sum. In the United States, where the Jews were only feebly represented in heavy industry and finance, they nevertheless have played an important part in many commodities-producing industries, such as clothing.

In central Europe, Jews were almost the only possessors of liquid capital in the 18th century and at the beginning of the 19th century. In Germany, Austria, Hungary, and Czechoslovakia, Jews played an important pioneering role in the first stages of capitalist evolution, occupying a considerable place in what may be termed the nerve-centers of capitalist evolution, such as banking, export and import trade, and similar fields. In 1800, in Frankfurt on Main, with its Jewish population of 600 families, 43 per cent of the entire Jewish capital was owned by 60 families which controlled the only 12 important Jewish firms in the city. Many of these families later headed banking enterprises of world fame, such as the Speyers, Rothschilds, Seligmans, Oppen-

heimers, and others. On the other hand, no less than a quarter of Prussian Jewry were, at the same time, peddlers who seldom eked out more than a bare existence. After the Franco-Prussian War (1870-1871), Germany embarked on a course of rapid industrialization and began to occupy a prominent place in world commerce. The Jews had a major share in this process. The class of Jewish capitalists increased considerably; the Jewish middle classes also grew in number and acquired a greater weight and influence. A Jewish intelligentsia came into existence which soon achieved a prominent rank in German literature, art, and science.

In the countries of Russia, Poland, Lithuania, Latvia, and Rumania, compact Jewish masses had lived for centuries, holding almost a monopoly on a large part of commercial and industrial activity. The Jews in these countries were not only the commercial pioneers, but were almost the only founders and owners of enterprises in many branches of trade and industry. In Russia and Poland, Jewish industrialists and financiers, such as the Poliakovs, Kronenbergs, Nathansons, Günzburgs, the bankers Efrosi and Company, and others, were the most prominent railway builders in the second half of the 19th century. Jews laid the basis and promoted the development of Russian and Polish banking. Within Russia's 1914 frontiers there were 300 sugar factories, of which 100 were owned by Jews. Of the 217 textile factories established in Lodz, Poland, between 1881 and 1909, no less than 142, or 65.4 per cent were owned by Jews.

Economic Development, 1915-1933.—In the period between the two world wars, the countries of the world may be divided into three major groups based upon their respective social and economic systems. In each group the position of the Jews differed significantly.

The countries based on the system of free enterprise—Great Britain, the Netherlands, Belgium, France, the United States, Australia, and the South American republics—comprised, on the one hand, politically powerful and highly industrialized nations, and, on the other hand, colonial or semicolonial countries with sparse populations and specific conditions of expansion. The position of Jews in all of these countries remained generally the same as in the liberal 19th century.

Under Soviet socialism, with the elimination of private enterprise, class antagonisms, and economic competition among national groups, the Jews' economic differences from the general population tended to grow less and less; although the number of Jews in the clerical occupations, in certain traditionally "Jewish trades" (needle, leather, printing, and food), and in the liberal professions was still disproportionately high. At the outset of the Russian Revolution, about half of the middle-class Jews became victims of nationalization, and for some 15 years could not adapt themselves to the new social system. This group was the main reservoir of the agrarian movement that set in among Soviet Jews—a movement that reached its peak in 1932-1933, when the land provided some 250,000 Jews (about 8 per cent of Soviet Jewry) with a livelihood. In later years, however, under the impact of the intense industrialization of the country, a considerable percentage of Jewish farmers returned to urban centers; by 1939 the number of Soviet Jews engaged in agriculture did not exceed 125,000.

The third group of countries comprised, on the one hand, those highly developed economically (such as Germany and Austria), and on the other hand, agrarian and semiagrarian nations (Poland, Rumania, Hungary, Lithuania, and Latvia), whose tardy industrial development was cramped from the outset by the narrow confines of poor and limited domestic markets. All of these countries had recourse to autarchy, economic self-sufficiency, and extreme nationalism. They were dominated politically by their middle classes with narrow horizons, and by their extremely nationalistic intelligentsia. These middle classes found a temporary solution of their problems in the expropriation of the Jewish minority.

The creation of several small independent states out of the two multinational empires (Russia and Austria-Hungary) following World War I had deep repercussions upon the position of the Jews of eastern Europe. Under the Hapsburgs and Romanovs, the Jews had performed the function of a connecting link between the advanced, industrialized sections of the empires and the agrarian, subject peoples. As a go-between group, the Jews were naturally concentrated in the towns and engaged in urban occupations. When the non-Jewish majority became the ruling nationality in the new independent states, it rapidly began, with the aid of the state, to create its own urban middle class. The new, non-Jewish town-dwellers increasingly aspired to a place in commerce and the liberal professions, and became strong competitors of the Jews.

The elimination of Jews from the liberal professions was effected by a rapid decrease in the numbers of Jewish students in the universities of central and eastern European countries. At the University of Budapest the percentage of Jews fell from 34.4 in 1914, to 4.1 in 1939; in the Polish universities the number dropped from 24.6 per cent of all students in 1922, to 8.2 per cent in 1939 (a development frequently marked by bloody anti-Jewish riots); in the university at Riga the Jews constituted, in 1921, 24.0 per cent of the student body, and in 1936 only 6.6 per cent. The declines in the medical and law schools in all of these countries were especially great.

A powerful factor in the process of dislodging the Jewish population from its economic positions was the intervention of the state. In several countries the state apparatus was placed at the service of the majority elements organizing themselves for competition with ethnic minorities. Moreover, the state directly assumed charge of wresting from those ethnic minorities, especially Jews, as many of their economic positions as possible. In Poland, Lithuania, Rumania, Latvia, and Hungary, it became a common practice for state banks to favor non-Jewish businessmen in the granting of credits, at the same time refusing credit to old, solidly established Jewish firms. Still more dangerous for the Jews was the direct struggle of the state machinery against them. In many of these countries the state became the largest employer and the largest customer, and then proceeded to exclude Jews from its economic activities. Jews were not only barred from state and municipal offices, but also from state-owned or state-controlled enterprises.

The second great factor which had a most unfavorable effect on the position of the Jewish masses was the marked reduction of overseas migration from Europe in the period between the two world wars. Poland, for example, provided

an annual average of 140,000 emigrants from 1895 to 1913; but from 1924 to 1934 the average dropped to only 49,000. Between 1901 and 1914 the annual average of Jewish emigration from Europe was 114,000; in the 1926-1935 period it was only 41,000. At the same time, as a result of population increases in central and eastern Europe, there occurred a mighty rush of peasant masses to the cities and toward every sort of urban occupation.

Period of Catastrophe, 1933-1945.—From the viewpoint of German Jewry, the period of catastrophe commenced in 1933, with Hitler's advent to power. For the bulk of European Jews, however, the tragic era began with the outbreak of World War II. In addition to the millions of Jews put to death by the Nazis, an estimated eight to nine billion dollars worth of Jewish property was plundered, including about 404,000 Jewish industrial and trade enterprises of varying sizes, some handed down from father to son for centuries and representing the energies, sweat, and toil of generations. Also plundered or destroyed were some 476,000 Jewish commercial enterprises, chiefly retail and wholesale stores varying in size from small shops to large establishments. Many Jewish cultural and welfare institutions were pillaged, including thousands of Jewish schools, libraries, newspapers, museums, hospitals, homes for the aged, orphan asylums, and other establishments.

In the years immediately following World War II, it soon became evident that the reconstitution of the Jewish communities in central and eastern Europe was impossible on anything like the prewar economic and social bases. Of those Jews who had escaped Hitler's gas chambers, many migrated to the growing Jewish community in Palestine as soon as they were able. By 1950 there were only three eastern European nations (exclusive of Soviet Russia) with any sizable Jewish population—Rumania, with an estimated 300,000 Jews; Hungary, with about 125,000; and Poland, with about 70,000. In all of the Communist-led countries, the growing nationalization of business and trade affected those Jewish businessmen who had somehow managed to retain or restore their businesses. These Jews were faced with the same problems of readjustment that had confronted the Jewish middle classes of Russia after the revolution of 1917. Some were able to obtain employment as managers or supervisors in the expanding state industries. Others became workers, some in special Jewish producers' co-operatives, as in Poland. Many, however, shifted about for some time, selling personal belongings or depending upon Jewish welfare agencies, and hoping to emigrate as soon as the bars placed upon their emigration were removed.

The Jewish Working Class.—There were in 1935-1939 nearly three million Jewish workers throughout the world, representing about 44 per cent of all gainfully employed Jews. Some characteristic features of the Jewish working class were as follows: (1) In 1939 about 600,000 Jews throughout the world lived by agricultural labor. With the exception of Palestine, the ratio of Jewish farm labor to the Jewish working class as a whole was comparatively small. (2) White-collar employees represented a much higher percentage of the working class among Jews than among non-Jews. (3) Domestic workers, the most depressed group of urban labor, occupied a much smaller place among Jews than in the non-Jewish

population. (4) Jewish industrial labor was concentrated in branches which have a more artisan character, consequently in smaller enterprises. (5) Among Jews, women workers represented a much smaller percentage of the working population than among non-Jews.

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23. JEWS IN THE UNITED STATES.

The history of the Jews in the Americas begins with major events in the discovery of the New World and is rooted in the westward geographical expansion and migrations of European Jewry during the 17th century. However, for most of the approximately five million Jews who are now an integral part of the United States population, their story more closely belongs to the great movement of peoples across the Atlantic during the 19th and 20th centuries, which brought over 38 million immigrants. This brief survey traces the historical sequences of Jewish immigration and discusses the social and economic pattern of Jewish settlement in the United States.

The New World and the Jews of Europe.

—The European background of the migration to the New World were wars and political upheavals, religious dissents and persecutions, economic crises and poverty. The Jews, on the whole, came to America for the same reasons as the Protestant dissenters or Catholics. If the first Jewish immigrants did not yet have universal religious freedom, they at least found no denomination numerically strong enough to force a single religion on all the inhabitants. They found sufficient freedom of economic enterprise, even when Protestants almost monopolized the offices of government. Like the Huguenots, Quakers, and other settlers, the Jews could breathe the air of a continent which had comparatively little of the Old World heritage of fierce intolerance and vested privilege, and which gave promise to fulfill the liberal ideas of John Locke, William Penn, Roger Williams, James Madison, and Thomas Jefferson.

About the middle of the 17th century, the Jews, confined for generations to a relatively small area in central and east-central Europe, entered upon a brighter era of geographic and economic expansion. They moved eastward to the Ukraine, White Russia, Poland, Rumania, Lithuania, Latvia, Slovakia, and Carpathian Ruthenia; westward to Holland, Belgium, Germany, France, England, and across the Atlantic. In the western countries of Europe, the source of the first Jewish settlers in America, there began a mingling of Ashkenazic Jews from eastern Europe and Sephardic Jews from Spain and Portugal, the latter group including also the Marranos, who

had adopted Christianity under terror and threat of expulsion. For the establishment of modern Jewish communities in Holland, England, France, and the New World, credit must be given to the Sephardic Jews and reformed Marranos, whose enterprise and worldly culture conquered the prejudices of the West against them.

For direct and indirect services in the discovery of America, not a little credit must be given to Jewish contemporaries of Columbus and to those Marranos who assisted in major phases of his career. Jewish scholars and scientists contributed to the improvements in the compass and the application of astronomy to navigation. Jews served as mariners, pilots, and interpreters in this period of great voyages and discoveries. Among the chief promoters of the momentous expedition of Columbus were men like Luis de Santangel, the Marrano royal chancellor; Gabriel Sanchez, the chief treasurer of Aragon; and Juar Cabrero, King Ferdinand's chamberlain. First among the Spaniards to tread American soil was a Marrano, Luis de Torres. Indeed, the fact that wealth stolen from the Jewish exiles of Spain had gone to fill the treasury of Aragon, has prompted one American historian who penetrated behind the schoolbook legend of Queen Isabella's crown jewels, to observe that "not jewels, but Jews" were the material basis of the great expedition. With singular irony, the vessels transporting Jews into exile passed by the little fleet which was stumbling into a new world.

For a century and a half between the discovery of the New World and the rise of New Amsterdam, scattered Jewish migrations took place to Spanish and Portuguese America, chiefly by Marrano refugees from the persecutions of the Inquisition. This powerful institution soon made itself felt in the New World: the West Indies in 1511; South America in 1516; and Mexico in 1571. Among other activities against heretics the Inquisition sought to root out Jewish practices by secret Jews, and duly eradicated such relapses by terror, torture, or the stake. Exiled and voluntary Marrano settlers in Brazil (some of whom, in 1548, had transplanted sugar cane from Madeira) had found a comparative security in their greater numbers. Many openly declared themselves Jews when Brazil came under tolerant Dutch rule about 1620. The first short-lived Jewish congregation in the New World was established in Recife (Pernambuco); its recapture by the Portuguese in 1654 dispersed the Jewish community to Holland, Surinam (site of the oldest Jewish community in the Americas), the West Indies, and New Amsterdam. Henceforth, migrating Jews would find the main center of Jewish life in the more economically and politically tolerant British colonies of the north.

The earliest identified Jewish settler within the present limits of New York was Jacob Barsimson, an Ashkenazic Jew, who arrived in New Amsterdam, probably from Holland, in 1654. He was followed in the same year by a group of 23 Sephardim from Brazil or the West Indies, thus opening the history of the Jewish community in the United States. The growth of the Jewish population in the United States has been conveniently divided into three cycles: the earliest settlements, consisting chiefly of Sephardic or Spanish-Portuguese Jews; the expansion of the community with the arrival of German Jews after 1840; and the great immigration from eastern Europe after 1880. Notwithstanding the early Sephardic

adlership, however, the Jewish community of New York after 1750 was already overwhelmingly Ashkenazic by virtue of arrivals from England, Holland, Germany, and Poland.

Americanization of the immigrants began in the seaboard towns, the first natural points of settlement. The course of cultural interaction continued for two centuries, with each succeeding wave of new arrivals, and involved many subtle and complex processes. The often painful emotional reorientation in a new land accompanied a rapid modification of the Jewish cultural and religious pattern under American law and freedom of thought. The newcomers' desire for social position on a par with established native-born Jews and Christians was sometimes won at the price of gross imitation. Of diverse groups themselves, the new arrivals soon discovered that in the free American society no one could force an individual to conform to a sectarian group and control ritual or belief. The realization by many immigrants of lingual and social disabilities resulted in the spontaneous formation of ghettos to gain cohesiveness and security. To aid in the adjustment and Americanization of the newcomers there took place a significant expansion in Jewish welfare activities and communal agencies. The influx of Jews from many diverse sources resulted in a stabilization of broad, fundamental Jewish ideals and customs held in common by all Jews. However, neither a Sephardic, nor a German, nor an east European, nor a predominantly traditional Jewish community emerged from the unique combination of forces in the American environment.

Migrations and Settlement.—New Amsterdam (later New York) was the site of the first Jewish community of what is now the United States. It first attracted individuals, then families, and eventually masses of Jewish immigrants—the tailors, shoemakers, smiths, merchants, and brokers of the 18th century. Then, in the 19th century, came the peddlers, petty traders, and diverse industrial workers, most of whom, reluctant to move inland and away from the protective homogeneity of an urban Jewish quarter, remained to swell the growing community.

The second settlement took prosperous root in Newport, Rhode Island. Thanks to the enlightened charter of Roger Williams, Rhode Island became a dissenters' refuge and the only New England colony of the 17th century to tolerate a permanent Jewish community. By 1658, the Jews of Newport had built the first synagogue in North America.

More Jewish communities were organized in the early 18th century in Philadelphia (chiefly between 1726 and 1745) and other towns of Pennsylvania, a commonwealth permeated by the generous Quaker spirit of William Penn. Another Jewish community was established in 1733 at Savannah, Georgia, a philanthropic refuge granting liberty of conscience, but administered, curiously, by trustees who were prejudiced against "papists," rum, and even lawyers. Although many of the settlers were rather scandalized by the unexpected arrival of poor Jews, Governor James Oglethorpe extended the newcomers their protection. Still another community rose in 1750 at Charleston, in Carolina, whose constitution had long before been drafted by the liberal genius of John Locke to refuse no "Jews, heathens, and other dissenters."

In the initial period of the young republic, the

Jewish communities comprised between two and three thousand persons in a total population of about four million. Concentrated in a half dozen seaboard cities, the Jews had been absorbed within the commercial and social life of the colonies. They were active in the manual crafts, in trade—intercolonial, Indian, and foreign—and in shipping. To the growth of the new nation they provided the services of talented merchant pioneers, public officers, revolutionary patriots, enlisted soldiers, and devoted financiers (among them the self-sacrificing Haym Salomon, who helped to tide over an impoverished Continental Congress).

Adventurous and enterprising individual Jews and small groups established scattered bases for future Jewish communities in the south and west, founding another congregation at Richmond, Va., in 1790. An Indian trader who was a Jew set up the first cotton gin in Alabama, on the site of Montgomery. Jews were among those who pushed out into the wilderness of Kentucky. Jews as Indian traders and traders in fur and land penetrated beyond the reaches of the Ohio River, north as far as Michigan and Wisconsin, and west to Illinois, leaving the memory of Jewish pioneers on places bearing the names of Franks, Gratz, and Harris. As part of the continuing urban expansion in the east; as part of the great westward trek across mountains, valleys, and plains; and at one time attracted—as their contemporaries—by the gold discoveries of California (there were two Jewish congregations in San Francisco in 1850), Jews formed a component of the irrepressible tide that opened up the virgin territories west of the Mississippi, as they later were elements of a steadier flow toward youthful Cincinnati, Chicago, Detroit, and other rising centers.

In the 40-year period of geographical and economic expansion following 1840, the general population of the United States increased from about 17 million to 50 million, and the Jews from about 15 thousand to 250 thousand. As part of the general migration from Germany to the farmlands and towns of the United States in the 19th century, some 200,000 Jews fled to the middlemen's positions of trading and peddling in the coastal cities and to such growing midwestern centers as Cincinnati, Chicago, St. Paul, and Minneapolis. They had run from the prejudices, poverty, and post-revolutionary reaction in the German states, and, to cite one example, from such a degrading disability as the limitation on the number of Jewish marriages.

The American Sephardic element was comfortably adjusted in the native scene, but already numerically overwhelmed in the Jewish community, when many German Jews began their striking economic rise which, for some, led from itinerant peddler to department store pioneer and established merchant. Having most courageously scattered in little groups beyond the limited opportunities of the concentrated Jewish communities, the German Jews became more rapidly Americanized. Though they successfully absorbed the American middle-class social pattern, the German Jews retained their profound concern with Jewish communal conditions. They founded lasting institutions, such as the Young Men's Hebrew Association (YMHA) and B'nai B'rith, and forged localized social services into federations on a national scale. They were liberal in culture and reformist in religion. As a group, however, they kept themselves aloof from the

proletarian masses of new Jewish arrivals from eastern Europe, whose outlandish ways embarrassed them as much as they themselves had once embarrassed the Spanish-Portuguese group.

From 1880 to 1920, the period of greatest immigration to the United States, nearly 24 million persons entered the country, including some 2 million Jews. By 1920 the Jewish community had increased to approximately 3.5 million in a total population of about 106 million.

Brutal economic, political, and cultural realities drove most of these Jews out of eastern Europe. They fled from official anti-Semitic policies implemented by inspired pogroms and the outbursts of deluded and oppressed mobs. In the starving towns of Galicia, where a doctor's customary prescription to Jewish patients was simply food; in Rumania, where Jews were driven from itinerant trade with the villages; and everywhere in central and eastern Europe, where the new industrialization and growth of state monopolies were ruining petty shopkeepers and displacing craftsmen, masses of Jews were torn from their ancestral moorings. That these wretched and impoverished families, attached to orthodoxy, Yiddish, and their folkways, managed to transplant themselves successfully to a strange and distant land was due chiefly to the climate of freedom in the United States and the great industrial expansion underway there.

For many years, most of those who settled in the eastern metropolitan centers went through a gruelling process of social transformation. The old craftsmen, petty shopkeepers, tradesmen, and the sprinkling of professionals and intellectuals were proletarianized by the sweatshop. For a time, this harsh urban school of Americanization converted the heterogeneous masses from Russia, Poland, Galicia, and Rumania into a fairly uniform society of manual laborers—something unprecedented in modern Jewish society. Out of the economic warfare waged by the shop workers in New York, Baltimore, Philadelphia, Boston, and Chicago, emerged a proletariat fermenting with uplift and progressive ideas, and led by self-educated workers or transplanted young socialist leaders. From the struggles of these workers rose the militant and socially-minded needle trades unions. However, adherence to religious orthodoxy, Sabbath observance, and traditional folkways kept many Jewish workers concentrated in a few relatively independent trades outside the non-Jewish employment market. Besides the cleavage between those who maintained strict religious fidelity and those who discarded much of the traditional pattern, there also developed a differentiation in terms of language and culture. For the broad masses, however, Yiddish remained the instrument of a flourishing press, literature, and theater—and thus, a mode of life.

Adaptation to the new environment did not proceed without considerable personal maladjustment and family demoralization. In addition to economic difficulties, there was the painful psychological isolation of a minority group. Competition between varying mores produced confusions and uncertainties. Out of these conditions developed the unhappy fissure between immigrant parents and their American-born children, and between the established groups in the Jewish community and the later comers.

However, with the rise of the younger generations into the middle classes and their growing participation in the political and social life of the

country, the economic and social homogeneity of the immigrant group was broken up. In their turn, the Jews from eastern Europe organized fraternal societies, social welfare agencies, synagogues, schools, and cultural and study circles. In a manner characteristic of their ideology, they set up bodies to meet the needs of Jews as a national-cultural group, rather than as mere co-religionists. They also developed Zionist organizations—of middle-class, orthodox, and laborite persuasion—to assist in the growth of the Jewish national homeland in Palestine. On the whole the mass immigration of Jews from eastern Europe resulted not only in the multiplication of communal institutions, but in the extension of Jewish group life, in the cohesion and intensification of traditional Jewish culture, and in many significant contributions to liberal practices of the American labor movement and political life.

Economic Structure of the Jewish Community.—The pattern of economic opportunity for Jews in the United States has changed markedly since the 1880's. The determining factors in this transformation lie within the general development of the American economy and the specific nature of the Jewish background and adjustment. Among the important determinants have been the traditional Jewish respect for literacy and higher education, and the historically developed Jewish urban aptitudes, special skills, and occupational preferences. These factors favorably coincided with the rapid expansion in the American economy of clerical work, commerce, and the professions. Other factors have been the attraction of the immigrants to established Jewish communities in the largest cities, and the comparatively firmer determination of Jewish immigrants to establish themselves permanently in the United States (only 4.6 per cent of Jewish immigrants returned to countries of origin between 1908 and 1943, as compared with 37.8 per cent of other immigrants). Anti-Jewish discrimination has been a considerable force in shaping the economic structure of the Jewish community. In the 1930's, for example, discrimination was intensified by the economic crisis and the growth of anti-Semitism, resulting in a downward trend in employment opportunities for Jews and an increase in discriminatory practices in the professional schools.

A major characteristic of the Jewish community in the United States is its predominantly urban nature. More than 80 per cent of the estimated five million Jews in the United States (1948) lived in cities of 100,000 and over. The Jewish community has also shown a tendency toward occupational concentration in relatively few fields of economic enterprise. Thus, the Jews of New York, who constituted about 30 per cent of the city's population in 1937, formed more than 30 per cent of the workers in trade, manufacturing, professional services, and amusements; but less than 30 per cent in construction and transportation, finance, and public utilities. Late studies of urban centers other than New York indicate that the prewar concentration of Jews in trade, white collar, and professional occupations continued after World War II. Among Jews the trade group is almost three times as large as among the general population; in the professions about twice as large; but in manufacturing it is less than among the general population. In New York City the main concentration of Jews in the retail trades is in food stores, apparel, furniture, and drug stores; in the manufacturing industries,

chiefly clothing, furs, printing, and food; in the professions, mainly law, medicine, pharmacy, and dentistry.

Although Jews loom large in tobacco buying, cigar (but not cigarette) manufacturing, distilleries, moving pictures, the boot and shoe industries, and independent retail trades (but decidedly not the chain-store field), the only industries in which they have attained dominant ownership on a national scale are the garment industries. The percentage of Jewish ownership is small in wool and cotton textiles. Jewish participation in insurance is limited almost entirely to selling personnel. Jews constitute a fraction of one per cent of agricultural personnel and are found hardly at all in such capital goods industries as coal, chemicals, steel, transportation, electrical goods, oil, rubber, and automobiles; nor are Jews significantly present in the public utilities.

The traditional urban position of Jews; their concentration within occupations which have brought them into direct contact with the consuming public; the increased importance of cities under modern industrialism—have all helped sustain the myth that Jews have monopolized economic opportunity. A survey in 1936 by *Fortune* magazine helped to discredit this notion. This study confirmed the fact that Jews have a decidedly subordinate role in American finance and an even more inconspicuous place in heavy industry. It found that Jews play little or no part in the great commercial houses, that they do not control the instruments of opinion, and that there are vast industrial fields in which Jews play so inconsiderable a part as not to count in the total picture. Nevertheless, the myth of Jewish economic power has been used to foment anti-Semitism among the ignorant and uninformed, sometimes, as in Europe, with tragic consequences.

The Jewish community has manifested a growing concern over the occupational shift to the clerical and professional fields. To offset this trend, many Jewish leaders have advocated a broader occupational distribution through the vocational adjustment of young people. However desirable this may be as a social corrective, the problem of Jewish vocational adjustment is not only a Jewish but a general problem. The phenomenon of national, religious, or ethnic concentration in the American economy has been no less characteristic of other immigrant groups; for example, of those who had applied their group skills largely to mining or construction. All groups, including the Jewish, have responded naturally to the requirements and opportunities of expanding fields in modern American economic activity, as they must to changing economic conditions. Thus, the long-range problem of the Jewish community has derived from a general economic trend affecting all Americans: the narrowing range of small-scale enterprise and the growth of corporations and government agencies as employers. For Jews, as for other ethnic or religious minorities, this development may, to an extent, have intensified employment discrimination, though not in the field of public employment with its civil service safeguards and generally democratic tradition. But the success of the struggle against discrimination in the placement policies of large private business organizations, agencies, labor unions, and institutions, has depended at least as much on voluntary cooperation and on a democratic public opinion as on legisla-

tive and administrative attempts to enforce laws of fair employment practices.

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JEW'S HARP, a small musical instrument held between the lips, the sound coming from the vibrations of a tongue of metal, bent at a right angle, which is set in motion by being twitched with the forefinger. The sound is increased in intensity by the breath, and altered in pitch by the shape of the cavity of the mouth, which acts as a reflector. The older name of the instrument is "Jew's trumpet," possibly a corruption of the Dutch *Jedugtromp* (child's trumpet). Known for centuries in Europe, the Jew's harp is also found in eastern Asia and Oceania. Early 19th century virtuosi, such as Heinrich Scheibler, combined a number of Jew's harps into one instrument, obtaining remarkable effects.

JEW'S' MALLOW, a pot-herb. See **CORCHORUS**.

JEWSBURY, Geraldine Endsor, English novelist: b. Measham, Derbyshire, 1812; d. London, Sept. 23, 1880. She was brought up under the care of her brilliant elder sister, Maria Jane Jewsbury (q.v.), and is chiefly remembered for her friendship with Thomas Carlyle and his wife, although her writings were popular in her lifetime. She possessed a wide circle of friends, among them W. E. Forster, Thomas Huxley and James Froude. She met the Carlyles in 1841 and the friendship then formed lasted through Mrs. Carlyle's and Miss Jewsbury's lifetimes. Her account of Mrs. Carlyle's early life is printed in Carlyle's *Reminiscences*. She wrote for Charles Dickens' *Household Words* at his solicitation, and also contributed to the *Athenaeum* and to the *Westminster Review*. Author of the novels *Zoe* (1845); *The Half Sisters* (1848); *Marian Withers* (1851); *Constance Herbert* (1855); *The Sorrows of Gentility* (1856); *Right or Wrong* (1859).

JEWSBURY, Maria Jane (Mrs. WILLIAM K. FLETCHER), English author, sister of the preceding: b. Measham, Derbyshire, Oct. 25, 1800; d. Poonah, India, Oct. 4, 1833. She lost her mother at the age of 18 and thereupon as-

sumed the care of her younger sister Geraldine, and three brothers. Her first published verse appeared when she was about 18, and in 1824 she adopted literature as a profession. She held the admiring friendship of William Wordsworth, Letitia Elizabeth Landon, and other notables, and her works were well received. She married William Kew Fletcher, a chaplain in the service of the East India Company, Aug. 1, 1832, accompanied him to India, and died of cholera 14 months later.

She was the author of *Phantasmagoria, or Sketches of Life and Character* (2 vols., 1824); *Letters to the Young* (1828); *Lays of Leisure Hours* (1829); and *Three Histories: The History of an Enthusiast, The History of a Nonchalant, The History of a Realist* (1829).

JEX-BLAKE, jěks' blāk', Sophia Louisa, English physician; b. Hastings, Sussex, Jan. 21, 1840; d. Rotherfield, Sussex, Jan. 7, 1912. She was the daughter of a physician, and in 1865 went to Boston where she worked with Dr. Lucy Sewall for two years. In 1868 she began her studies with Dr. Elizabeth Blackwell in New York, but upon her father's death returned to England in the same year. Refused admittance to the University of London because of her sex, she was admitted to the University of Edinburgh in 1869, but in 1872 was refused permission to graduate. Subsequently she graduated at the University of Berne, although this did not entitle her to practice in Great Britain.

Devoting herself to pioneering the advancement of women in the British medical profession, she founded the London School of Medicine for Women, which opened in 1874, and worked to achieve her ends through Parliament. With the passage of the Russell Gurney Enabling Act (1876), she was finally admitted to practice in 1877, practicing from 1878 until her retirement in 1899 in Edinburgh, where she founded the Edinburgh School of Medicine for Women in 1886.

JEZEBEL, jěz'ě-běl (in the Douay Bible JEZABEL), the wife of Ahab, king of Israel: fl. 9th century B.C. The daughter of Ethbaal, king of Sidon (I Kings 16:31), according to the Bible she was the evil genius of her husband, favored the idolatrous worship of Baal in Palestine, and persecuted the prophets of Jehovah. Her name left a dark stain upon the annals of Israel and survived to the later dispensation where it occurs in the Book of Revelation (Revelation 2:20) as a symbol of feminine depravity and impiety. She outlived Ahab by 14 years (II Kings 9:30-37), and was finally murdered by Jehu at Jezreel, when he captured the throne of the northern kingdom (about 843 B.C.).

JEZREEL, jěz'rě-ěl, ancient town, Palestine, in the Valley of Jezreel, Plain of Esdraelon. It became the residence of Ahab, king of Israel, (I Kings 21:1) and was the scene of the murders of Naboth (I Kings 21:1-16) and Jezebel (II Kings 9:30-37). In modern times it was the Arab village of Zir'in until 1948, when it was occupied by Jewish settlers.

JHALAWAR, jā'lā-wār, former princely state, India; one of the Eastern Rajputana States of Rajputana. Its capital was Jhalrapatan. Jhalawar was created in 1838 upon the dismem-

berment of Kotah and was ruled by the Jha Rajputs. In 1896 Zalim Singh was deposed by the British for misrule and most of his domain were restored to Kotah; a new state of Jhalawar being formed in two separate sections, Shahabada and the Chaumahla. On March 25, 1948 the state was merged with the Union of Rajasthan which merged with the Indian Union in 1949. Area 824 square miles; pop. (1941) 122,299.

JHANSI, jän'si, district, India; in Uttar Pradesh; until 1950 a district of the United Provinces. Its principal river is the Betwa, the valley of which has long been important as a route between the Deccan plateau and the region of the Ganges and Jumna rivers. The Betwa provides irrigation, but Jhansi is nevertheless dependent on summer rains, and drought often leads to famine.

It was ruled by the Chandel kings (from about the 11th century) and the Bundela Rajputs (from about the 14th century), but in 1742 was annexed by the Mahrattas, who established an independent state in 1770. Jhansi came under British protection in 1805. Mahratta rule lasted until 1853, when the last maharaja died without issue and the state was escheated to the East India Company. The rani of Jhansi, Lakshmi Bai, widow of the maharaja, joined the native forces in the Indian Mutiny of 1857 and was killed in the defense of Gwalior against Sir Hugh Rose in the same year.

The area (3,606 square miles) and population (773,002) of 1941 were slightly enlarged by territorial additions in 1950 to about 3,670 square miles and about 784,700 respectively.

The former JHANSI DIVISION of the United Provinces comprised the districts of Jhansi, Jalaun, Hamirpur, and Banda. Area 10,553 square miles; pop. (1941) 2,553,492.

JHANSI, city, India; in southern Uttar Pradesh; capital of Jhansi District. It is situated 130 miles south of Agra. Walled for the most part, and dominated by a fort on high rock, it is a rail junction and the trading center for an extensive agricultural region. There are railway workshops, rolling mills, and manufactures of rugs, silk, and brassware.

In 1613 a fort was built here by the Bundela Rajputs, but the city dates from 1742 when it came under Mahratta rule and was settled by immigrants from Orchha. The fort was further strengthened until it was perhaps the strongest fortification in central India. The city was the scene of a massacre of Europeans in 1857 during the India Mutiny and was besieged from March 20 to April 3, 1858 by Sir Hugh Rose, being stormed on the latter date in spite of efforts at relief by Tantia Topi. Pop. including cantonment (1941) 103,254.

JHELUM, jā'lūm (ancient HYDASPES), river, India and Pakistan; most westerly of the "Five Rivers" of the Punjab. It rises in Kashmir. Into an octagonal tank at Vernag flow springs from the western Himalayas, which form the headwaters of the Jhelum. The river flows northwest through the Vale of Kashmir, passing Srinagar and Wular Lake; then southwest and northwest past Baramula to Muzaffarabad, where it turns south, and flows along the boundary between Kashmir and the North-West Frontier Province of Pakistan, a distance of about 100 miles. Leaving the boundary at the town of Jhelum, it flows

outhwest and south into the Chenab River. Its whole course is about 480 miles, nearly all of which is navigable.

JICARILLA, *hē-kā-rēl'yā*, a tribe of North American Indians of Athapaskan stock, one of the tribes of the Querechos or eastern Apaches, originally of the mountains of Arizona and New Mexico and ranging eastward, but now settled on a reservation near Tierra Amarilla in northern New Mexico. The tribe at one time comprised two bands, the Llanero and the Ollero, ranging on different banks of the Rio Grande. The name Jicarilla is supposed to be of Spanish origin, from *jicara*, a basket tray, the tribe being famed for its skill in basket weaving. At one time they were the terror of their district, but they now live quietly although they remain uncivilized. Their language is similar to that of the Mescalero Apaches.

JIDDA, *jīd'ā*, or **JEDDA**, *jēd'ā* (also **JEDDAH** or **GEDDA**), city, Saudi Arabia; the chief seaport of the Hejaz. It is situated on the Red Sea, about 46 miles west of Mecca, with which it is connected by a road. Jidda is the principal port of entry for Moslem pilgrims, upwards of 75,000 of whom pass through the port each year on their way to Mecca. It also has an airport. Jidda is a walled city, with houses built chiefly of coral rock. The residential section on the northern side contains the embassies to Saudi Arabia and the buildings of foreign firms. There is a large bazaar, but few manufactures, which include rugs, religious articles, and pottery. Food must be imported; water is obtained mostly from an apparatus which distills sea water. The climate is hot and humid.

The site of an early settlement, probably established by Persian traders, is 12 miles south of the present city. Jidda became important as a port in which goods from India destined for the Mediterranean were transhipped from India to Egyptian vessels. Although this declined with improved shipping methods, Jidda was compensated by its development as a pilgrimage center in the 17th century. Upon the proclamation of Arab independence from the Turks in 1916, Jidda became part of the Kingdom of the Hejaz of Faisal ibn-Ali. On Dec. 23, 1925, after being besieged by the Wahhabi forces of King ibn-Saud since November of 1924, it surrendered to the latter. The famous reputed tomb of Eve just outside the walls was demolished by the Wahhabis in 1927.

The population of Jidda, mainly Arab, Iranian, Indian, and Negro, was estimated at 60,000 in 1950.

JIG, in music, originally a lively English dance, the music for which was usually but by no means exclusively in 6-8 time. It became popular in the 16th century and survives, with local changes, chiefly in the music of Ireland and Scotland. The tune usually has two or three parts. In the middle of the 17th century the jig spread to the Continent, where it was adapted to local usages, particularly in France and Italy.

As a GIGUE, the French form of the word, or a GIGA, the Italian form, the jig is found in the instrumental suites and solos of Arcangelo Corelli, Johann Sebastian Bach, George Frederick Handel, and other composers of the period, most frequently to conclude the composition. The time

varies greatly. Usually in two parts, the second part of the gigue or giga begins conventionally with an inversion of the theme of the first part.

JIGGER (also **CHIGGER** or **CHIGOE**), the name of a flea (*Tunga penetrans*) of tropical America, which bores under the skin or toenails



Jigger (*Tunga penetrans*)
Left: mature jigger. Center: after eating. Right: larva.

and produces pustulous sores. The name is also applied to larval forms of mites of the family Trombiculidae which also bore under the skin.

JIHAD or **JEHAD**, *jê-hād'* (Arabic *jihād*, endeavor or exertion), the holy war as undertaken by Moslems to spread the domain of Islam. Originally, Mohammed forbade reprisals against unbelievers, although self-defense was encouraged (Koran 22:39-42). But during the struggle between Mecca and the Moslems at Medina, the jihad came to be prescribed as a duty of all able-bodied men (Koran 2:212-213). Those who could not take part were to contribute money according to their means. The wars which accompanied the great expansion of Islam after the death of Mohammed were not primarily religious wars, however, although the appeal to religion was always made, just as in the Christian West. Only among the Kharijites, regarded as heretical by other Moslems, did the jihad become a commandment, being added, as a sixth, to the "five pillars" of Islam.

Rules for the conduct of warfare and the humane treatment of the conquered were prescribed, as were those for the division of booty (Koran 8:42). Unbelievers in conquered countries, although reduced to political impotence, were allowed considerable freedom of worship, provided they paid tribute. Thus it will be seen that the object of the jihad was not to make individual conversions so much as to extend the domain of Islam.

In modern times the jihad has been interpreted not as physical combat, but as a spiritual one. The jihad proclaimed by the Turkish sultan at the beginning of World War I was a failure, meeting with little response in the Moslem world generally.

JIHLAVA, *y'hlá-vá* (known also by its German name, IGLAU, *é'glou*), city, Czechoslovakia; capital of Jihlava Province in western Moravia. It is situated on the Jihlava River, in the Bohemian-Moravian Highlands which separate Bohemia from Moravia, 82 miles southeast of Prague. A rail junction, and on the Brno-Prague highway, Jihlava is the market center for an agricultural and lumbering region. It manufactures woolen textiles, shoes and gloves, furniture, pianos, automobile bodies, and tools, and has breweries and sawmills.

Jihlava was a famous silver-mining center in medieval times, from perhaps the 9th century until the Thirty Years' War, when it suffered greatly, and was occupied by the Swedes, 1645-

1647. It has Gothic churches of the 13th and 16th centuries, and a Rathaus (town hall) of the 16th century.

The Compact of Jihlava, signed here July 5, 1436, brought to an end the Hussite Wars by accepting the stipulations of the moderate Hussites (Calixtines) on the basis of the conciliation offered by the Council of Basel in 1431. After having defeated several crusades sent against them and having raided deep into Germany, the Hussites were divided when the Calixtines accepted the Compact of Prague, Nov. 20, 1433, which was rejected by the more extreme Hussites (Taborites and Orphans). In the struggle which followed, the Taborites and Orphans were crushed by the Calixtines and Catholics at Český-Brod (or Böhmisch-Brod), May 30, 1434, and a settlement imposed on them. The Emperor Sigismund was recognized as king of Bohemia at the same time.

After World War I, Jihlava remained predominantly German, and was a center of Nazi agitation until Adolf Hitler assumed control of Czechoslovakia in 1938-1939.

The area of the province is 2,568 square miles; pop. (1947) 422,533; pop. of the city (1947), 23,413.

JIMENEZ (also **XIMÉNEZ**) **DE CISNEROS**, *hē-mā'nāth thā thēs-nārōs*, **Francisco**, Spanish prelate and statesman: b. Torrelaguna, Madrid Province, 1436; d. Roa, Burgos Province, Nov. 8, 1517. He was graduated in civil and canon law at Salamanca in 1456, became a priest, and going to Rome, practiced in the courts of the consistory, 1459-1465. He obtained the promise of Pope Sixtus IV to secure for him the first vacant benefice in Spain. Upon his return in 1465, however, the archbishop of Toledo refused to give him a place, and Jiménez having taken possession of a vacant benefice, the archbishop had him imprisoned. He recovered his freedom in 1480, and Cardinal Pedro González de Mendoza, bishop of Sigüenza, appointed him his vicar general. Nevertheless, Jiménez abandoned his benefices soon after and entered the Franciscan order, practicing the rigid asceticism which marked the rest of his life.

In 1492 Jiménez became confessor to Queen Isabella of Castile, to whose notice he had been recommended by Cardinal Mendoza, archbishop of Toledo since 1482, and in 1495 succeeded the latter as archbishop of Toledo and primate of Spain. Jiménez would not accept this dignity until at length he received an express command from the pope. As the Spanish primate, a position which carried with it the chancellorship of Castile, he abolished a multitude of abuses and adhered steadfastly to his resolution that public offices be filled with honorable and well-qualified men. Jiménez founded the celebrated university at Alcalá de Henares (moved to Madrid in 1836), and undertook in 1502 the Complutensian polyglot Bible, completed in 1517.

In 1504, Juana, the daughter of Isabella and Ferdinand II of Aragon, and her husband, Philip, archduke of Austria, succeeded to the throne of Castile. Following the death of Philip in 1506, Juana became incurably insane, and Jiménez was regent until the return of Ferdinand from Naples in 1507. In the same year he became cardinal, and inquisitor general of Castile and León.

The double aim of Spanish expansion and the conversion of the Moors now occupied his atten-

tion. With this in view, he formed the project of crossing over to Africa in order to take the fortress of Oran. In 1509 he landed on the coast of Africa with an army provided at his own expense, and after a defeat of the Moors near Oran the fortress was captured. Jiménez had Oran refortified, changed the mosques into churches and returned to Spain.

When Ferdinand died in 1516, Jiménez became regent of Spain until the arrival of Charles I (later the emperor Charles V) late in 1517, when Jiménez was dismissed, dying soon after.

JIMENEZ DE QUESADA, *ká-sā'thā* **Gonzalo**, Spanish explorer and conqueror: b. Granada, about 1500; d. Mariquita, New Granada (now in Colombia), Feb. 16, 1579. Educated as a lawyer, he went to America in 1535 as a judicial functionary in the suite of Pedro Fernández de Lugo, governor of the province of Santa Marta, who chose him to lead an expedition in search of the legendary country of El Dorado, thought to be near the headwaters of the Magdalena River. Actually, the expedition encountered the Chibchas, an Indian people whose chief cities were Hunsá (now Tunja in Boyacá Department, Colombia) and Bogotá (or Bacatá; now capital of Colombia).

Jiménez set out from Santa Marta on April 6, 1536, but at the end of eight months had made no more than 450 miles. After great hardships the expedition reached the mountains and in the following March progress was resumed.

The first Indians he met were so terrified by the sight of his horses that they instantly submitted. Approaching, at Hunsá, the court of one of the great chiefs of the Chibchas, he was allowed to enter the palace, but was treacherously attacked as he was about to embrace the chief. The latter was captured, after much slaughter, and Jiménez took possession of the town.

The chieftain of Bogotá fled at the approach of the Spaniards, and on Aug. 6, 1538, Jiménez founded a new city, Santa Fé (de Bogotá), near the site of the old.

He was presently joined by two rival expeditions, under Francisco Pizarro's lieutenant, Sebastián de Belalcázar (Benalcázar), and the German adventurer Nikolaus Federmann. The three then returned to Europe to lay their claims before Charles V, but while Balalcázar was made governor of Popayán (in 1538), Jiménez and Federmann gained nothing.

In 1550, however, Jiménez was belatedly made marshal of New Granada, and returning to Bogotá in 1551, seems to have protected the people against the rapacity of the Spanish officials.

Still searching for the land of El Dorado, in 1569 he spent immense sums in fitting out an expedition to the confluence of the Orinoco and Guaviare rivers. Setting out with 500 followers, he returned three years later with only 25 men. When he died (perhaps of leprosy), by his will he declared himself poor and forbade the erection of any but the simplest monument over his grave. His remains were removed to Bogotá in 1598.

Consult Cunninghamham Graham, R. G. B., *The Conquest of New Granada* (Boston 1922); Arciniegas, G., *The Knight of El Dorado*, tr. by M. Adams (New York 1942).

JIMENEZ DE RADA, *rā'thā*, **Rodrigo**, Spanish archbishop and historian: b. probably Puente la Reina, Navarre, about 1170; d. 1247. He studied at Paris, entered the Franciscan order and became archbishop of Toledo in 1208 or

1210. He was a dominant figure of his time, a learned writer, statesman, warrior and counsellor of kings. In 1212 he served at the battle of Las Navas de Tolosa; he commenced the building of the cathedral at Toledo, and founded the first general schools there. His work as a historian was of great importance and influence. He wrote *Historia Gothica*, better known as (*Chronica Rerum Gestarum in Hispania*, which he translated into Castilian, *Historia de los Godos* (1241).

JIMMU, legendary first ruler of Japan and founder of the Japanese imperial line. According to two official records of the 8th century A.D., the *Kojiki* (*Record of Ancient Things*) and the *Nihon-shoki* (*Chronicles of Japan*), Jimmu was a direct descendant of the sun goddess Amaterasu. He set out from Hyūga in southern Kyushu and, defeating the tribes he met on his way, reached Yamato in southern Honshu, which he conquered in 660 B.C. He is supposed to have reigned over Yamato until 585 B.C., when he died at his palace of Kashiwa-bara. Although it is possible that clans from Kyushu conquered Yamato, the conquest, if it took place, probably occurred in the 1st century B.C. By the time the chronicles were set down, however, the Yamato sovereigns controlled a large part of Japan, and the account of Jimmu's conquest and divine origin seems to have been compiled to give official backing to their dynasty. After the Meiji restoration in 1868, the legend of the divine origin of the imperial family and of an unbroken succession was incorporated in the Japanese constitution, and a specific day—Feb. 11, 660 B.C.—was assigned to Jimmu's conquest. The Japanese calendar begins with this date.

JINGO, legendary empress of Japan, wife of Chūai, the 14th emperor listed in the early chronicles. Chūai is supposed to have reigned from 191 to 200 A.D., but probably actually flourished around 340 A.D. According to the chronicles, he died leading an expedition against the Kumaso, warlike tribes of Kyushu. His wife, who succeeded him, is supposed to have led an army which conquered the Korean kingdom of Silla in 200 A.D. Korean accounts mention Japanese invasions in the 3d and 4th centuries, and one of these may refer to Jingo's expedition. After her victorious return, her son, Jin, 15th emperor, was born and Jingo continued to reign as regent. While there is little doubt that the conquest of Silla is largely mythical, there are references in Chinese history, usually more accurate, which indicate the existence of this empress, who probably reigned about 60 A.D., and there were contacts between Japan and the Korean kingdoms of Silla, Paekche, and Goguryu at about this period.

JINGO, word used in Britain, during the Russo-Turkish War of 1877–1878, to designate those who urged intervention in the conflict against Russia. The word was adopted from a song popular in London music halls at the period:

We don't want to fight, but, by Jingo! if we do,
We've got the ships, we've got the men,
We've got the money, too.

The word was first known in England about 1670 as a piece of conjurer's inarticulate nonsense; it was used by Peter Anthony Motteux in

1694 in his translation of book IV of Rabelais as substitution for *par Dieu*. In the United States, an equivalent to jingoism is spread-eagleism; and in France, chauvinism.

JINN, DJINN, or GENII, a class of spirits in Arabian folklore and mythology. They are lower than the angels and are made of fire, but are capable of appearing in both human and animal form; and if good are beautiful, while if bad they are hideous. They are supposed to exercise supernatural influence, which may be either good or bad. While supernatural, they are supposed to live, propagate their kind, and die as humans do, except that the duration of their lives is greater. Their home is the mountain Kaf, and their rulers are kings named Suleyman, or Solomon, one of whom is supposed with their aid to have built the Pyramids. In translations of the *Arabian Nights* they are called "genii"; but this does not mean that they are identical with the genii of Roman mythology.

JINNAH, jin'nā, Mohammed Ali, founder of Pakistan: b. Karachi, Dec. 25, 1876; d. there, Sept. 11, 1948. Born a Moslem, in a Moslem family, he adopted the name of Jinnah (Lean One). He qualified as a barrister in London, and in 1896 commenced law practice in Bombay, where he became an advocate in the high court. His political career began as an eager worker for the Congress Party, at that period not predominantly Hindu in membership, and from 1910 to 1919 he was a member of the Imperial Legislative Council of British India. He joined the Moslem League in 1913, served as its president in 1916 and 1920, and was permanent president from 1934. In 1921 he severed his connection with the Congress Party, and from that time he led a radical group in the Moslem League until the organization became split in 1929. For the next two years he was in Europe, during 1930–1931 attending the Round Table Conferences in London at which a solution of India's problems was sought. There he demanded political equality between Hindus and Moslems, and after the provincial elections of 1937 had given an overwhelming victory to the Congress Party he launched a campaign for creation of a Moslem state free of domination by the more numerous Hindu communities. With most Hindu leaders imprisoned during World War II (which he did not oppose) his political prestige grew, and in the subsequent negotiations which ended with Great Britain relinquishing her Indian Empire, he secured the reluctant consent of the Hindus for establishment of the separate Moslem state of Pakistan (q.v.). When that dominion came into being on Aug. 15, 1947, he became its first governor general, but he did not long survive to guide its destinies.

JINRIKISHA, jin-rīk'i-shā, a small two-wheeled vehicle, with a hood, drawn by one or more men. Invented in Japan, it was first used as a public passenger conveyance in 1871; subsequently it came into use in other parts of Asia, and in Africa. Credit for its invention has been given to Jonathan Goble (d. 1898), an American Baptist missionary.

JIUJITSU, jōō'jīt'sōō (written also jujutsu and jujitsu), Japanese method of self-defense without weapons; literally, the art of

making one's opponent use his strength to his own disadvantage. There are many methods, but only one is recognized as official, that devised by Prof. Jiguro Kano, principal of the High Normal School of Tokio, and is taught to every officer and enlisted man of the Japanese army, navy and police departments. Included in the 160 feats of the Kano system are the "serious tricks," by which death may be caused at the will of the adept, and the process of Kuatsu or revivification, by which the apparently lifeless victim is restored to the full use of his functional powers. Jiu jitsu is not a system of muscle building by physical training, but rather a means of offsetting the effectiveness of powerful muscles, by performing the most skilful yet simple manœuvres. The United States government has recognized its importance as science by having it taught at West Point and Annapolis as a special training. It is a scientific application of the knowledge of the weaker spots in the human anatomy to offense and defense. Such spots as the "funny bone" are utilized to down an adversary; fingers are bent backward; an opponent's onward rush is utilized to trip him; he is encouraged to uncover an armpit; he is pressed in the gland below and back of the ear; in short every trick that would be accounted "foul" in wrestling and boxing is the height of excellence in jiu jitsu. The study and practice of this art has been recommended to slight men and to women as a protection in case of assault. In professional jiu jitsu bouts the contestants avoid being injured by rapping the floor with hand or foot, and thus acknowledging defeat when an adversary has one in a position where he could inflict serious hurt. Consult Skinner, 'Jiu Jitsu' (New York 1904).

JIVARO, JIBAROS, GIVAROS, or **XIVAROS**, South American Indian race living in Ecuador and northern Peru about the tributaries of the upper Amazon. They are divided into numerous small tribes with individual names, are wholly savage and their language has never been classified. They live chiefly by hunting and warfare, their weapons being lances and bow guns with poisoned arrows. They are head hunters, drying and preserving their enemies' heads and also those of their own chiefs. Spanish settlements were made in their territory in the 16th century and missionaries established themselves there, but all were driven out by an uprising against them in 1599. They live in wooden houses, constructed with considerable skill, raise corn, beans and bananas, and possess the art of weaving.

JOAB, jō'āb, the son of King David's sister Zeruah, and commander-in-chief of David's army. He is first mentioned as the leader of David's men in an expedition against Abner. When Joab treacherously murdered Abner in revenge for the death of Asahel, David dared not punish the deed, and thus showed the ascendancy which Joab had acquired over him. After David had been established king in Jerusalem, Joab conducted all his wars with uniform success. He remained faithful to him during the rebellion of Absalom. When he had slain that ungrateful son, David made a weak attempt to supersede him in favor of Amasa, the general of Absalom. Joab slew Amasa and

resumed his post, a proceeding in which the king tacitly acquiesced. He further supported David by assisting in the murder of Uriah the Hittite. Toward the close of David's reign he joined in the rebellion of Adonijah, for which Solomon, by the advice of David, put him to death (1 Kings ii, 28-34).

JOACHIM, yō'a-hīm, **Joseph**, Hungarian violinist: b. Kittsee, near Presburg, 28 June 1831; d. Berlin, 15 Aug. 1907. He was of Jewish parentage and studied under Szervaczinsky at Budapest, with Böhm at Vienna and Hauptmann at the Vienna Conservatory, and after appearances in concert continued his studies at Leipzig. He played in England in 1844. In 1849 he became concert-meister of the Weimar grand-ducal orchestra, of which Liszt was then conductor, in 1854-66 was solo-violinist and conductor of concerts to the king of Hanover, and in 1868 became director of the Hochschule für ausübende Tonkunst at Berlin. He became known, both as an interpreter of the best music and as an executant, as the greatest violinist of his time, and particularly as a quartette player gained an almost classic reputation. His compositions include the 'Hungarian Concerto' in D-minor for violin and orchestra, his most important works; ballads, trios, overtures, marches and works for violin and pianoforte. He played also in the famous quartette which included De Ahna, second violin; Hausmann, 'cello, and Wirth, viola. Consult Moser, A. 'Joseph Joachim' (Berlin 1904); and Bickley, Nora, 'Letters from and to Joseph Joachim' (London 1914).

JOACHIM, jō'a-kīm, **Saint**, Order of, an order of knighthood founded 20 June 1755, under the title "Order of Jonathan for the purpose of defending the honor of Divine Providence." It consisted of 14 dukes, princes, counts and nobles, and its grand master was Prince Franz Christian of Saxe-Coburg. Its object was by the establishment of commanderies to stir up the rich to philanthropic work among the lower classes. This order was still in existence in 1820, but it has since then been dissolved.

JOACHIM DE FLORIS, Italian mystic theologian: b. Celico, near Cosenza, Calabria, about 1145; d. Monte Nero, 20 March 1202. Of noble birth he was brought up at the court of Duke Roger of Apulia and in his youth visited the holy places of the East. Soon after his return he resolved to alter his manner of life and entered the Cistercian order at Casamari. In 1177 we find mention of him as abbot of the monastery of Corazzo. He visited Pope Lucius III at Veroli in 1183, and Urban III at Verona two years later. He soon became dissatisfied with the lax discipline of the monastery and retired to the solitudes of Pietralata, where with some followers he founded the abbey of San Giovanni in Fiore, on Monte Nero. He was befriended by the Pope and emperor and branch houses were established. He is best known however as the author of prophetic and polemical works, although in the 13th and succeeding centuries many such works were put out under his name. Only those enumerated in his will can be deemed absolutely authentic. These are 'Concordia Novi ac Veteris Testamenti' (first printed at Venice 1519); 'Expositio Apocalypsis' (Venice 1527); 'Psalter-

ium decem chordarum (Venice 1527) and various "libelli" against the adversaries of the Christian name and faith. He divides the history of mankind into three periods, which in the *Expositio* he calls the Age of Law, or of the Father, the Age of the Gospel, or of the Son, and the Age of the Spirit, which will witness the consummation of all things. His ideas soon spread in Italy and France, and many interpolations were made in his works. Some of the opinions attributed to him were condemned at the Lateran Council of 1215. In 1255 others similarly attributed to him were censured by Pope Alexander IV, but the orthodoxy of Joachim was affirmed.

Consult *Acta Sanctorum* (Antwerp 1643–1686); Fourmer, P. E. L., *Etudes sur Joachim de Fiore* (Paris 1909).

JOACHIMSTAL'S, yō'-ā-kims-tālz (geometrical) **THEOREM** is as follows: If a line of curvature of a given surface is plane, then its plane forms a constant angle with the planes tangent to the surface (along the line). It was first stated in 1846 by F. Joachimstal (1818–1861).

JOACHIMSTHAL, Czechoslovakia. See JACHYMOV.

JOAD, jōd, Cyril Edwin Mitchinson, English philosopher and author: b. Aug. 12, 1891. He was educated at Blundell's School, Tiverton, and Balliol College, Oxford. From 1914–1930 he was a member of the staff of the Ministry of Labour. Since then he has been head of the department of philosophy at Birkbeck College, University of London. He became a successful lecturer and writer. Some of his books are *Common Sense Ethics* (1920); *Common Sense Theology* (1922); *The Book of Joad* (1935); *Return to Philosophy* (1936); *About Education* (1945); *The Untutored Townsman's Invasion of the Country* (1946); and *Decadence: a Philosophical Enquiry* (1948).

JOAN or **JOANNA**, queen of Sicily: b. Angers, October 1165; d. Rouen, September 1199. The third daughter of Henry II of England and Eleanor of Aquitaine, she married William II of Sicily in 1177. He died in 1189, and in 1191 she accompanied Berengaria, wise and beautiful fiancée of her brother Richard, to Palestine, returning to Europe a year later. Richard arranged her marriage with Count Raymond VI of Toulouse (1196); their son, another Raymond, was born in July 1197. Dying in childbirth, she asked to be veiled as a nun of Fontevrault and was buried in the abbey there at the feet of her father and beside her favorite brother Richard.

JOAN, mythical female pope, supposed to have occupied the papal chair in the guise of a man as Pope John VIII, 855–858. As there was no interregnum between Pope Leo IV, 847–855 and Pope Benedict III, 855–858, the story is undoubtedly pure fable; and moreover no mention is made of the supposed popess until the middle of the 13th century, contemporary history being entirely silent on the matter. The legend runs that Joan was of English descent but born at Ingelheim or Mainz, and that she loved a Benedictine monk with whom she fled to Athens disguised as a man. She attained great learning and after the death of her lover went to Rome, still in male attire, rose to be cardinal, and finally

was elected pope. She died in childbirth during a papal procession, one legend having it that in a vision she was given choice between temporal disgrace and eternal punishment. The story was widely current from the 13th to the 17th centuries and was first definitely refuted by a French Calvinist, David Blondel, in *Eclaircissement de la question si une femme a été assise au siège papal de Rome* (1647) and in *De Joanna Papissa* (1657). These volumes were ably supplemented by Johann Dollinger, *Papstfabeln des Mittelalters* (1863; Eng. trans., 1872).

JOAN OF ARC (JEANNE D'ARC), the Maid of Orleans, heroine of France: b. Domrémy en Barrois, on the borders of Champagne and Lorraine, now in the Department of Vosges, Jan. 6, 1412; d. Rouen, May 30, 1431. A humble and deeply religious shepherdess, Joan was profoundly moved by the sad plight of France. The country had been invaded by the English and most of it was occupied by the conquerors and their Burgundian allies. To make matters worse, France was in the throes of an economic crisis while widespread doubts of the legitimacy of the uncrowned Charles VII paralyzed the popular will. A patriot and mystic, Joan heard the voices of saints assuring her of Charles' right to rule and commanding her to expel the enemy. She journeyed to Chinon, obtained an interview with the prince and convinced him of her divinely-inspired mission. Armed and placed at the head of 10,000 men, she raised the siege of Orléans (May 8, 1429), defeated Lord John Talbot and the reinforcements under Sir John Fastolf at Patay (June 18), and electrified the men-at-arms and their commanders, raising their spirits from black despair to wild enthusiasm. On July 17 she stood at Charles' side at the anointing and coronation ceremonies in Reims Cathedral. The new-crowned sovereign denying her adequate military support, she failed in the attempt to liberate Paris (September 8). On May 24, 1430 she was taken prisoner under the walls of Compiègne. Accused of sorcery, she was delivered to an inquisitorial tribunal presided over by Bishop Pierre Cauchon. The University of Paris, under English pressure, supported the charge of sorcery. Joan was condemned and burned alive at Rouen. However, before her death she made a public declaration, reiterating her belief in Charles' royal authority, the justice of France's cause, and the authenticity of her "Voices." The ashes of the patriot martyr were cast into the Seine; but the people believed her a saint and her prophecies divinely inspired revelations. In fact, they were realized by the recovery of Paris and final expulsion of the English. A quarter of a century after her death legal proceedings were undertaken to clear her name; these were successful and her condemnation was annulled on July 7, 1456. The question of her canonization was first discussed at Rome in 1875. In 1902 she was pronounced "venerable," and in 1909 she was beatified. She was canonized by Benedict XV on May 9, 1920. The French government, on July 10, 1920, declared Joan of Arc's fête day (May 30) a national holiday.

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de *Jeanne d'Arc* (Paris 1920); Belloc, H., *Joan of Arc* (London 1929); Terry, E., *Jeanne d'Arc in Periodical Literature* (New York 1930); Calmette, Joseph, *Jeanne d'Arc*, 2d ed. (Paris 1950). Among the many literary works inspired by Joan, the celebrated drama of Schiller, *Die Jungfrau von Orleans*, is particularly noteworthy.

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JOAN OF ARC, Personal Recollections of, a historical novel by "Mark Twain" (Samuel L. Clemens, q.v.), published anonymously in *Harper's Magazine* during 1895 and as a book in 1896. It is purportedly a translation of a biography of Joan written by her page, the Sieur Louis de Conte. Although the earlier parts are embellished with fictional characters and incidents, in the main the story closely follows history. Revealing Mark Twain's life-long reverence for Joan and his characteristic hatred of injustice, this fictional biography also shows him in temporary reaction against his growing despair of mankind as he emphasizes the unselfish singleness of purpose of one individual whom he considered near perfection. It was dedicated to his wife.

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JOANNESIA, a genus of plants of the family Euphorbiaceae. *J. princeps*, the single species, is an inhabitant of Brazil. The wood is spongy and light, the flower yellow and large, and the fruit a gray nut which encloses two kernels in a double rind. The fruit is strongly purgative and is used by Brazilians as a remedy in cases of indigestion, jaundice and other diseases. Oil is pressed from these kernels, with which the natives anoint their limbs. It is said to be a good drying oil and excellent for painting. The rinds of the fruits, thrown into ponds, destroy the fish.

JOASH or JEHOASH, as it is sometimes written, was the name of two kings in the Old Testament.

(1) King of Judah (r. 844-798 B.C.), son of Ahaziah and grandson of the wicked Athaliah. He was placed on the throne at the age of seven under the leadership of the priestly party. On the whole his reign was a good one. Hazael, king of Damascus, invaded his kingdom but was bought off with large bribes including temple treasures. He was finally assassinated.

(2) King of Israel (r. 840-825 B.C.) and son of Jehoahaz, recovered cities his father lost to Syria and won war with Amaziah, king of Judah.

JOB, a legendary character of Hebrew literature whose history is poetically treated in the Book of Job. He is said to have been a sheik of the patriarchal age who lived near the Arabian Desert on the eastern boundary of Palestine. After repeated disaster and ruin, suddenly stripped of his possessions, bereaved of his children, himself smitten with leprosy, and his wife advising him "to curse God and die," he gives way to despair, his friends giving him only critical, philosophical advice. Finally, however, by force of character he rises superior to circumstances, and regains health, wealth, and honor. The traditions handed down, according to early custom, in oral form, were committed to MS. about the 5th century B.C. While they have their origin in historical tradition, the events describing the life

of Job are not regarded as literal history. Some authorities contend that the book is purely a literary invention, a rabbi as early as the Talmud *Baba Bathra* (15:1), writing "Job was not, and was not created, but is an allegory." See *Job, Book of*.

JOB, Book of, the supreme masterpiece of ancient Hebrew literature, is one of the small group of world poems that live as universal expressions of the human spirit. The book takes its name from its hero, who is pictured as an ancient sheik living to the eastward of Palestine, on the borders of the Arabian Desert. Already in the time of Ezekiel (Ezekiel 14:14, 20), the name was famous as that of a righteous man. It was perhaps two and a half centuries later than Ezekiel's reference that the unnamed author of the book made the ancient, traditional figure the hero of his great poem. The exact date of the author and his work is undetermined, but the relation of the poem to the general development of Jewish literature places it most naturally in the last century of Persian rule or even shortly after Alexander's conquest.

In orderly structure, Job resembles Greek and other Western literary works much more closely than do most examples of ancient Semitic literature. The poem is framed by a prologue and epilogue in prose. These, presumably, give the substance of the ancient traditional story as it had come to the author. It may be that their present artistic form is due to his genius, but the explanation of Job's sufferings given in the prologue is so foreign to the body of the poem, and the restoration of double the material blessings, in the epilogue, is so far below and so inconsistent with the thought of the poem that it seems as though the tradition was already too firmly established for the author greatly to modify its substance. The prose sections, when taken together, give a dramatic account of a series of misfortunes that fell on Job in order to prove to the Satan, "the Adversary," that disinterested righteousness does exist in man. Having endured the test with complete devotion to God, Job was rewarded with material prosperity twice as great as he had before. The prologue closes with the visit of Job's three friends who come to comfort him, but sit by him in silence for seven days. The great poem, inserted between the two parts of the prose narrative, itself falls into three main divisions: (1) the discourses of Job and his three friends (Job 3-31), (2) the speeches of Elihu (Job 32-37), (3) the words of Jehovah and Job (Job 38-42:6). The Elihu section is best regarded as a later addition, made by some one who felt that the author had failed to present the orthodox point of view maintained by the friends with enough strength. The original poem would then be made up of the two great divisions—the debate between Job and his friends and the interposition of Jehovah when the friends have been silenced. The poem is much more impressive in this briefer form. The first section is subdivided into Job's curse and three cycles of debate. In each cycle the friends speak in turn, followed in every case by Job, except that in the third cycle the third friend, Zophar, does not appear. Some of the words ascribed to Job in this section probably belonged originally to Zophar (Job 27:7-11, 13-23) so that the three cycles were complete. The notable poem on the unsearchableness of wis-

dom, near the close of the third cycle (chap. xxviii), belongs to no one of the speakers in the original debate and was probably introduced by some later hand.

In sharpest contrast to the prologue, the poem begins with Job vehemently cursing the day of his birth and longing for death. The friends are greatly shocked at Job's words. Eliphaz urges that confession of sin would be appropriate; Job is no doubt a great sinner for trouble does not come without a cause. He exhorts the sufferer to seek unto God, who will greatly bless if Job accepts correction and does not despise the chastening of the Almighty. Job admits that his words have been rash under his great calamity and again longs for death. He adds pertinently that when one is ready to faint and is forsaking the fear of the Almighty, kindness should be shown him from a friend; but his friends have proved as deceitful as the mountain torrents of Palestine which vanish under the summer's heat. He describes the horror of the disease with which he has been smitten, which gives him no respite day or night and then turns to bitter words toward the watcher of men who has set him up as a mark. Bildad now speaks, and more bluntly than Eliphaz had done, even suggesting that Job's children may have met their sudden, tragic death because of their sin. At the close, he too holds out hope; but Job now sees his hopeless case with his friends. If it is true, as they believe, that God gives prosperity to the righteous and sends suffering to the wicked, then he is proven guilty, yet his conscience acquits him. His own suffering has opened his eyes to the fact that the time-honored dogma of material rewards and punishments is not true to the facts; rather wickedness prospers and it must be God who is responsible. If it be not He, who then is it? Returning at length to his longing for final release, he pleads with God for a little merry before he goes to the land of the shadow of death. Zophar, untouched by the pathos of Job's plea, charges that God is exacting less than Job's iniquity deserves. In this first cycle of the discussion, the point of view of the friends becomes clear. They have inherited the noble faith bequeathed by the prophets and are earnest defenders of God's justice and mercy. The prophetic doctrine that sin brings suffering to the sinner may be supported with much evidence. Job has had a personal experience, however, which has made clear to him the fact that material benefits are not always apportioned on the basis of merit. In closing this cycle of the debate, Job sarcastically scorns the friends' traditional wisdom with which he is as familiar as they. They draw their wisdom from the ancients; he tells them that wisdom is with God and power too; but Divine justice he cannot find in human affairs. From man he turns to God, longing to speak directly with Him; he will take his life in his hand and appear before the Almighty. Then the strength of the sick man fails. God's hand is upon him so that he cannot argue his case. He prays that he may be hidden in the grave till the wrath is past and then may have a hearing. Thus Job is brought to the question: If a man die, shall he live again? If Job could believe in a life after death, he could wait, but he sees only oblivion and sinks back in despair.

Already before this first cycle ends, the

interest of the sympathetic reader has insensibly passed from the argument of the debate to the unfolding of Job's inner life. In the following cycles the accusations of the friends become more direct, but they are able to add little that is new in support of their contention that all suffering is sent for sin. In the second cycle it becomes clear that all Job really asks of his friends is sympathy while he pursues his lonely quest through the darkness. It is God, not the friends, with whom he is really concerned. Once and again he rises to the momentary faith that his case is clear in heaven and that he will ultimately see God and find vindication. Under all his doubts there is the conviction that God must be just as well as powerful. Job's real quest is for a satisfying view of God which the current theology could not afford him. The friends who represent this theology are silenced but not convinced. The debate closes with a long discourse of Job in which he tells how in his former honored condition he had been accustomed to give sympathy to the wretched and defends himself against the charges of sin. Then he realizes that his defense is hopeless; God does not hear and he is speaking in ignorance of the charge against him.

Omitting the Elihu speeches as an intrusion on the original complete poem, Job's wish is suddenly granted. Jehovah speaks out of the whirlwind, telling of his wisdom and power in the creation and control of the mighty forces of nature. In this section many feel that an interpolator had added the semi-mythical behemoth and leviathan (xl, 15 — xli, 34). Without these the section contains the wonders of both the inanimate and animal worlds. In the speeches of the Almighty no really new thought is added to the faith that the Hebrew prophets had attained before the book of Job was written; but a splendid, dramatic presentation of the Divine wisdom and power seen in nature humbles Job; he feels that he had heard of God by the hearing of the ear but that he now sees Him. In this vision he rests humbled and content, not even thinking of arguing his case as he had hoped to do.

Like every great work of literature, the book of Job is a transcript from life as it is. It reveals the negative power and the limitations of the critical intellect, the positive power and outreach of vision and faith. The classification of the poem has been the subject of much debate. That it is dramatic is obvious; it may even be presented with some effective power upon the modern stage; yet the theory that the poem is a genuine drama, designed for action, is now generally abandoned. It is recognized, indeed, that the ancient Semites did not develop any true drama, so far as our knowledge of their life and literature extends. The work has in recent years been styled an epic, "the epic of the inner life," telling the story of the perilous quest and brave deeds of a typical Jewish hero whose exploits were in the sphere of the spirit. In external form it resembles epic rather less than drama, yet the recognition of the fact that the search for God is the essence of the poem is vital to its right understanding. Exact classification of ancient Semitic writings under our categories of Indo-European literature is not possible. The divisions of epic and dramatic poetry were made

for the description of Greek not Hebrew poetry. That has its own forms, usually less rigid than those of Western writings. As yet they have defied thoroughly satisfactory definition. Although Job is a supreme world poem revealing "the essentials of life in its greatness," true alike to the 4th century B.C. and the 20th century A.D., in external form it is Semitic poetry, not Occidental. This statement is just as true of its general structure as it is of its genuinely Hebrew rhythm and metre.

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JOBERT DE LAMBALLE, zhō'hār dē lān'bal, Antoine Joseph, French surgeon: b. Matignon, 17 Dec. 1799; d. Passy, 25 April 1867. In 1825 he was made assistant in anatomy for the faculty of Paris, then doctor of medicine and supplementary professor at the École de Médecine, next surgeon for the central bureau of hospitals. In 1830 he became surgeon at the Saint Louis Hospital, and in his later years he worked in the Hotel Dieu Hospital, and was made professor of the external clinic of the Paris faculty. In 1854 he was appointed surgeon to the emperor and was made member of the Academy of Sciences in 1856. He did valuable service in uterine diseases and invented *cystoplastie* by use of healthy tissue in the cure of vesico-vaginal fistula. His best-known works are 'Traité des plaies d'armes à feu' (Paris 1833); 'Recherches sur les appareils électriques des poissons' (ib. 1858); 'Études sur le système nerveux' (ib. 1838); 'Traité de chirurgie plastique' (ib. 1849); 'De la Réunion en chirurgie' (1864).

JOB'S TEAR, a stout grass (*Coix lachry-majobi*), allied to maize, and sometimes six or eight feet in height. It is a native of tropical Asia and Africa, is naturalized in Spain and in other countries, and is sometimes grown in hothouses. The hard, round, shining seed-capsules, from whose fanciful resemblance to tears the plant derives its name, are used in making rosaries and ornamental articles, as medicine by the Chinese, and as a staple food among some of the hill-tribes of northern India. See also GRASSES in THE UNITED STATES.

JOBSON, Frederick James, English Wesleyan clergyman: b. Northwich, Cheshire,

6 July 1812; d. London, 4 Jan. 1881. After serving as apprentice to a Norwich architect he entered (1834) the Wesleyan ministry preaching at Patrington, Yorkshire (1834), and Manchester (1835-37), when he became assistant at City Road Chapel, London. He was a delegate (1856) of the British conference to the Methodist Episcopal Conference held at Indianapolis, Ind., and to the Sydney, Australia (1860), conference. He advanced the publishing business of his denomination as book steward (1864-79) and superintended the issue of the *Methodist Magazine* for 12 years. At the Wesleyan Methodist Conference (1869) he was elected president. His best-known works are 'Chapel and School Architecture' (London 1850); 'America and American Methodism' (1857); 'Australia; with Notes by the way on Egypt, Ceylon, Bombay and the Holy Land' (1862); 'Perfect Love for Christian Believers' (1864); 'Serious Truths for Consideration' (1864). In B. Gregory's 'Life of F. J. Jobson' (London 1884) are a number of his sermons.

JOCELYN, Nathaniel, American portrait painter: b. New Haven, Conn., 31 Jan. 1796; d. there, 13 Jan. 1881. At 18 he was apprenticed to an engraver, but after three years his early love for painting asserted itself and he established himself as a portrait painter at New Haven in 1820. He was for some time resident in Savannah, where he painted many portraits, but returned to his native town where his work was very popular and where from 1825 to 1835 he painted the portraits of many notables, not a few of which are preserved in Alumni Hall at Yale. His fame extended beyond the limits of his State and he exhibited at the Academy of Design on several occasions. At the age of 80 he painted 'Ocean Breezes,' a successful work of fancy, and his only one. His portraits have been greatly prized by critics. Jocelyn was a staunch anti-slavery man, and his home in New Haven was long one of the stations on the underground railroad. He was for many years the senior partner of a bank-note engraving company in New York which subsequently became the American Bank Note Company, resigning from the latter in 1867.

JODHPUR, India, capital city of the Rajput state Marwar or Jodhpur, in lat. 26° 17' N and long. 73° 4' E. It was built by Rao Jodha 1459 A.D., and is located on the Luni, constructed like an amphitheatre and surrounded by a strong wall. On a high rock is the fort which contains the palace of the maharajah. The sacred suburb Mahamandil lies somewhat apart and is also fortified and is ruled over by the high priest of the empire. To the north are the magnificent ruins of the forsaken (1459) capital Mandor. This city is the seat of government and the buildings are of good architecture and substantial construction as the neighborhood has a large stone supply. Here are located a high school, college, two hospitals, etc. It is an important commercial centre and has a wheat market and electric-lighting plant. Among its manufactures are beans, ivory, lacquer wares, vegetable dyes, etc. Pop. 94,736.

JODHPUR, or **MARWAR**, India. tributary state of the British East Indian province Rajputana. It is bordered on the east by the Aravalli Mountains whose watershed feeds the

river Luni which flows through the entire state, ending in the Great Rann. To the west it is bordered by the Indian Desert. The climate runs to great extremes, frost often appearing in the winter season. There are several salt lakes from which salt is extracted in commercial quantities. In the irrigated sections are grown wheat and cotton. The best camels of India are raised here besides fine cattle, horses and sheep. Its exports also include wool, iron and zinc. Sugar, rice and cotton goods are the chief imports. The railway from Sindh to Agra bisects the state from west to east. Its maharajah has great governing power and receives a big income from taxation and sustains a considerable army. Pop. 2,125,892.

JOE PYE WEED. See EUPATORIUM.

JOEL, one of the minor Hebrew prophets who lived in the 5th century B.C., a predecessor by a few years of Amos and Hosea, whose writings are very similar in character. Outside of his writings, nothing is known of the author. His style is that of a clear, calm, logical mind free from the doubts and struggles that distract the minds of other Hebrew poets and prophets. Without the strain and abruptness that characterize the writings of Hosea and Jeremiah, his language is smooth and flowing, the imagery is gorgeous in its profusion, and metaphor and hyperbole have to be interpreted to discern fact amid the maze of imagination and fancy. See **JOEL**, **BOOK OF**.

JOEL, Book of. The book consists of two parts, which differ materially from each other in thought. Chapters i and ii, 1-27, except for possible later additions, were written in the midst of a plague of locusts and drought, regarded as a punishment upon Israel; while chapter ii, 28-32 and chapter iii (chapters iii and iv in the Hebrew), make no mention of these circumstances but are dealing with the coming day of Yahweh, the final judgment on the nations. Until recently the whole book, or the most of it, has been regarded as the work of a single author; but now some maintain that the second part, or the most of it, is not by the author of the first part. This is on grounds of thought and style, neither reason, however, giving a sufficient warrant for this conclusion. The probable view is that the most of the book was by a single author, the two portions, however, being written at different times. There are a few later additions. These in the first portion are i, 15; ii, 1b, 2, 10-11, 20. All these were designed to connect the first part with the thought of the second, in each case they are inappropriate in the context and interrupt the thought. In the second part iii, 4-8 interrupts the connection, and is to be regarded as a later addition.

Concerning the prophet, nothing is known outside of the book. His name means: "Yahweh is God." In earlier times the date was often thought to be pre-exilic. It is now generally recognized, however, that it is post-exilic. This is evident from iii, 2, from which it appears that the people are scattered among the nations. There is no mention of a king, which points to the same period. The emphasis on the importance of the Temple services also strongly suggests the post-exilic period. Chapter ii, 32 is a direct allusion to Obadiah xvii, which was written after the exile. The allusions to

foreign nations make no mention of Assyria or Babylonia, one of which is mentioned in every pre-exilic prophet except Amos, and doubtless alluded to there. Further, there is no mention of the northern kingdom, Israel, which excludes the pre-exilic period except the last part. The Temple is standing, as appears from frequent references, such as i, 13, hence it is after 516 B.C. Probably ii, 9 indicates that the wall of Jerusalem has been built, thus indicating the time after Nehemiah. The date about 400 B.C. seems, therefore, most probable.

The thought of the book is in accord with the general teaching of the prophets, although it makes no material advance upon the messages given earlier. The author prizes more highly than most of the prophets the external worship, yet this is regarded as an expression of the realities of the inner life, ii, 13. He connects sin and punishment, repentance and national prosperity. He looks forward to the coming day of Yahweh, a general judgment upon the nations for their sins. In this time the true Israel, the faithful who call upon Yahweh, will be delivered, ii, 32, iii, 16; and will receive abundant blessing, iii, 18-21. The conception of God emphasizes his power and his justice.

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JOFFRE, zhō'fr', Joseph Jacques Césaire, marshal of France: b. Rivesaltes, Pyrénées, 4 Jan. 1852; d. Paris, France, 3 Jan. 1931. He was educated at the College of Perpignan and in 1868 was enrolled at the École Polytechnique. He joined the French army as second lieutenant during the Franco-Prussian War of 1870-71, and was in command of a battery during the siege of Paris. He returned to the Polytechnique after the war, was made a lieutenant in 1872, helped in the defense of Pontarlier in 1874 and became captain in 1876. He served in Tonking under Courbet in 1883-84, and under Dodds in Dahomey 10 years later. He took part in the occupation of Timbuctoo in 1894 and in the Madagascar campaign of 1897; was appointed on his return professor at the Higher War School and in 1901 was made brigadier-general of a division. He organized the defenses of Formosa and in 1911 while in command of the Second Army corps at Amiens was made commander of all the French forces. The Three Years' Service Law for the French army was largely due to his efforts. He was a distinguished mathematician. At the outbreak of the war in Europe in 1914 he was chief of the general staff. He was placed in supreme command of all forces, both British and French, on the western front. History will in all probability laud him as the hero of the Marne. With Von Kluck battering his way to Paris, Joffre doggedly refused to give battle, announcing that at his own time and on his own ground, and not before, would he make his stand. But when, finally, he issued his memorable orders on the eve of Lafayette's birthday, in that gloomy September of 1914, "Troops unable to advance should die where they stand rather

than give ground to the enemy." the Germans were thrown back on the Somme front and Paris was saved. In December 1915 Joffre became supreme commander of all French armies, including the forces then at Salonika. Subsequently he was blamed when the German attack on Verdun nearly succeeded in February-March, 1916. The French government relieved him of command in December 1916, his place being taken by Gen. Robert Georges Nivelle (q.v.), and Joffre was called to Paris as technical adviser for nearly a year, after which he was virtually retired with the rank of marshal of France.

JOGUES, zhôg, SAINT Isaac, French Jesuit missionary among the North American Indians: b. Orléans, Jan. 10, 1607; d. Ossernenon (later Auriesville, N. Y.), Oct. 18, 1646. He became a Jesuit at Rouen in 1624, and, after some years passed in study and teaching, was ordained in 1636. Arriving in Quebec, Canada, the same year, he was sent to work among the Indians south of Lake Huron. He was the first missionary to reach Michigan; in 1641, accompanied by Raymbault, he traveled as far as Sault Sainte Marie, that strait being so named by him. In 1642 he visited Quebec to procure supplies for the Huron mission, and while returning his party was attacked by the Iroquois. He was captured and tortured, and was held captive until the summer of 1643, when he was ransomed by the Dutch at Fort Orange (Albany, N. Y.). By way of New Amsterdam (New York) he returned to France and thence to Canada, and in 1646 he was sent on another mission to the Iroquois; he discovered Lake George, which he christened "Lake of the Blessed Sacrament." The Mohawks captured him and put him to death. Pope Pius XI canonized him on June 29, 1930. See **JESUITS**.

JOHANNESBURG, jô-hân'is-bûrg, or yô-han'ës-bûrg, the Golden City, largest city in the Union of South Africa, latitude 26°11'S., longitude 28°03'E., situated 5,740 feet above sea level on the Witwatersrand (q.v.). Founded as a mining camp in September 1886, it has become the center of the most extensive gold deposit in the world. It has an area of 89.6 square miles, ratable value of £335 million, annual revenue of £12 million, more than 1,000 miles of roads, 85,000 motor cars, and over 900 buses. Including a zoo of 144 acres with more than 2,600 animals and birds, its parks and open spaces cover over 6,060 acres.

The University of Witwatersrand (founded 1903) with campus of 96 acres and over 3,000 students is associated with the government's Department of Health and Interior, which staffs the university's Departments of Public Health and Forensic Medicine. Other institutions associated with the university are: the Bernard Price Institute of Geophysical Research; the Carnegie-Price Chair of Geophysics; the Mines Department Minerals Research Laboratory; the Bureau of Archaeology; and the world renowned Institute for Medical Research. The main library of 480,000 volumes, reference library of 130,000 volumes, and Africana and Geological Museums are in one building. Free hospitals with over 3,750 beds treat 60,000 in-patients and more than 750,000 out-patients yearly. There are more than 200 churches and over 100 nursery, primary, and high schools; an art gallery; a

civic orchestra; the usual cultural societies, clubs, theaters, skating rink, race tracks, and other sports facilities. The climate is invigorating, with mean maximum and minimum shade temperatures of 71 and 49 degrees, a daily average of 8.7 hours of sunshine, and rainfall of 30 inches in 96 days of the year. Johannesburg is the headquarters of the Chamber of Mines and Mining Groups controlling 60 gold mines in the Transvaal and Orange Free State (q.v.). Thirteen engineering and technical societies with 8,000 members are at Kelvin House. The Witwatersrand Technical Institute provides technical, art, and commercial education up to university standard. Leiden Observatory, Netherlands, cooperating with Union Observatory, operates a twin 16-inch photographic telescope in a building on the Union Observatory grounds. The Yale University Observatory's southern station is situated on the university grounds. Direct scheduled air communication with America and Europe is maintained.

Becoming a municipality in 1896, it was occupied by British forces in 1900 and administered by the military until an elected council assumed local government in December 1903. It received a city charter on Sept. 5, 1928. Radio broadcasting is in both English and Afrikaans on a number of wave lengths. The water supply (about 90 million gallons of water per day) is pumped from the Vaal River, 36 miles away. The city has its own gas and electrical departments, the latter of 200,000 kw. capacity, which it was planned to double (1950). Pop. (1949) 839,154, including 343,192 Europeans, 452,310 natives, 26,850 Eurafricans (or colored), and 16,802 Asiatics.

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JOHN, the name of 23 popes, as follows:

JOHN I, Saint: b. Tuscany, 470?; d. May 18, 526. He succeeded Hormisdas in 523. Theodoric sent him to Constantinople in 525 to obtain toleration for the Arians from Justin. Because his mission was only partly successful, Theodoric imprisoned him at Ravenna where he died.

JOHN II (MERCURIUS): d. Rome, May 27, 535. He was a Roman, and was surnamed Mercurius by reason of his eloquence. He became pope in 533. He obtained from Athalaric, the Ostrogoth king, a decree condemning simony and assuring the regularity of papal elections. In 534 he approved the profession of faith of Emperor Justinian.

JOHN III: d. Rome, July 12, 572. He was a Roman, and became pope in July 561. During his time the Lombards frequently ravaged Italy.

JOHN IV: b. Salona in Dalmatia; d. Rome, Oct. 11, 642. He was elevated to the papal chair in December 640, and was noted for zeal and orthodoxy. He formally condemned the Monothelitic statement of faith which Sergius had drawn up at the desire of the Emperor Heraclius.

JOHN V: b. Antioch, Syria; d. Rome, Aug. 2, 686. He was the earliest of several pontiffs of Oriental origin and had been sent to

the Sixth General Council by Pope Agatho as legate. He became Pope 24 July 685.

JOHN VI: he was a Greek by birth; d. Rome, 9 Jan. 705. He became Pope in 701, and when appealed to with reference to the long dispute between Saint Wilfred of York and the archiepiscopal see of Canterbury, decided in favor of the latter.

JOHN VII, a Greek: d. Rome, 17 Oct. 707. He became Pope 1 March 705.

JOHN VIII, a Roman: d. Rome, 15 Dec. 882. He became Pope in 872. The Saracens during his pontificate pushed their ravages to the gates of Rome and he was compelled in 877 to pay them tribute. He crowned three emperors, Charles the Bald, 875; Louis the Stammerer, 878; and Charles the Fat, 881. He attempted, but unsuccessfully, to unite the Greek and Latin churches.

JOHN IX: b. Tibur; d. May 900. He belonged to the Benedictine order and became Pope, as the choice of the Frankish party, in June 898.

JOHN X: b. Romagna; d. July 929. He was a man of great ability and of virtuous character notwithstanding the aspersions Liutprand casts upon him. He was archbishop of Ravenna in 905 and became Pope in 914. He placed himself at the head of an army and drove the Saracens from Italy, but his determination to rule independently of any faction aroused the anger of his opponents and he was imprisoned, and at length murdered, by Theodora's daughter, Marozia, whose ambitions he had thwarted.

JOHN XI: b. 906; d. 936. He was the son of Marozia (q.v.) and Guy, Duke of Spoleto. He was elected Pope while under age in 931, and governed through the influence of his mother. His brother Alberic II revolted and imprisoned the Pope and his mother in the castle of San Angelo, where John died.

JOHN XII (OCTAVIAN): d. Rome, 14 May 964. He was the son of Alberic and grandson of Marozia. He became Pope in 956, after the death of Agapetus II, though only 18, and was the first Pope who changed his name on accession to the papal dignity. He applied to the Emperor Otho I for assistance against Berengar II, crowned the emperor 962, and swore allegiance to him, but soon after revolted against Otho who caused him to be deposed by a council, in 963, and Leo VIII to be elected. On Otho's departure for Germany, John returned and excommunicated his rival.

JOHN XIII, a Roman: d. Rome, 6 Sept. 972. He was bishop of Narni, was made Pope in 965 by the influence of the Emperor Otho I and was expelled by the Roman nobles. Otho II restored him to Rome and was crowned by him. The Poles and Hungarians were converted during his pontificate.

JOHN XIV (PETER): b. Pavia; d. Rome, 20 Aug. 984. He was bishop of Pavia and had been chancellor to Otho II who made him Pope in November 983, in place of the anti-pope Boniface VII. The latter had seized the papacy after the death of Otho I. Boniface now returned from Constantinople and imprisoned John in the castle of San Angelo, where he died soon after.

JOHN XV: d. Rome, April 996. He was the choice of Crescentius and his party, under

whose influence he remained throughout his reign (985-996).

JOHN XVI (PHILAGATHUS), a Greek of Calabria: d. probably April 1013. He became Pope in 997. A native of Rossano, Calabria, he became a monk and from Otto II received the abbey of Nonantola. In 988 he was promoted to the see of Piacenza. Crescentius placed him on the papal throne in 997 which he occupied about a year before he was thrown into prison by Otto III, and subsequently removed to a monastery. His nose and ears were cut off and his eyes gouged out.

JOHN XVII (SICCO): b. Ripa Jani; d. Rome, 6 Nov. 1003. An anti-pope intruded during the pontificate of Gregory V. He reigned only a few months, from 13 June 1003 to 6 November.

JOHN XVIII (PHASIANUS). He became Pope on Christmas Day 1003, and in May 1009 resigned his office and entered a monastery. His pontificate was marked by strict attention to ecclesiastical administration.

JOHN XIX, a Roman: d. January 1033. He succeeded his brother, Benedict VIII. He was disposed to concede the title Ecumenical to the patriarch of Constantinople, but this met with so much opposition from the Latin Church that he was obliged to withdraw the concession. He crowned the Emperor Conrad II in the presence of Rudolph of Burgundy and King Canute of Denmark and England.

JOHN XX, frequently called **JOHN XXI (PEDRO):** b. Lisbon, Portugal; d. Viterbo, Italy, 20 May 1277. He became in 1273 cardinal-bishop of Frascati and Pope in September 1276. He was learned in philosophy and medicine and wrote several treatises still of interest as showing the status of mediæval medicine.

JOHN XXI. See **JOHN XX.**

JOHN XXII (JACQUES D'EUSE): b. Cahors, about 1244; d. Avignon, 4 Dec. 1334. He was archbishop of Avignon, cardinal-bishop of Porto (1312) and was elected Pope at Lyons 1316, two years after the death of Clement V. He resided at Avignon, but had many adherents in Italy. He is important in German history on account of the active part he took in the disputes of the Emperors Louis of Bavaria and Frederick of Austria. Louis intruded the anti-pope Nicholas V and declared John XXII deposed. Several theological controversies filled his pontificate with ecclesiastical strife, the most notable being the question of absolute evangelical poverty raised by the Franciscans and that of hominalism led by William Occam (q.v.). He published in 1317 the 'Constitutions of Clement V,' a manual of canon law, since known by the title 'Clementines' (q.v.). He was also the author of the decretals called 'Extravagantes.'

JOHN XXIII (BALDASSARE COSSA): b. Naples; d. Florence, 22 Dec. 1419. He was elected Pope in 1410, by the Council of Pisa, after the death of Alexander V, on condition that, if Gregory XII and Benedict XIII would resign, he would also retire to end the schism. He summoned the Council of Constance, demanded by the Emperor Sigismund, in 1415, where he confirmed his resignation 2 March; but 20 March he fled secretly from Constance to Schaffhausen and revoked his resignation. He was cited before the council, but not ap-

pearing, he was suspended and finally deposed. He was imprisoned four years. Pope Martin V pardoned him and made him cardinal-bishop of Tuscoli and dean of the college of cardinals.

JOHN, king of England: b. Oxford, Dec. 24, 1167; d. Newark, Nottinghamshire, Oct. 19, 1216. He was the youngest son of Henry II, by Eleanor of Guienne. Being left without any particular provision he received the name of *Sans Terre* or Lackland; but his brother, Richard I, on his accession conferred large possessions on him. He obtained the crown on the death of Richard in 1199, although the French provinces of Anjou, Touraine and Maine declared for his nephew, Arthur, Duke of Brittany (q.v.), who was lineally the rightful heir, then with the king of France. A war ensued, in which John recovered the revolted provinces and received homage from Arthur. In 1201 disturbances again broke out in France, and Arthur, who had joined the malcontents, was captured and confined in the castle of Rouen, and never heard of more. John was universally suspected of his nephew's death, and in the war which followed he lost Normandy, Anjou, Maine and Touraine. In 1205 his quarrel with Pope Innocent III began regarding the election to the see of Canterbury, to which the pope had nominated Stephen Langton (q.v.). The result was that the pope laid the whole kingdom under an interdict, and 1211 issued a bull deposing John. Thereupon John made abject submission to the pope, even agreeing to hold his kingdom as a vassal of the pope (1213). His arbitrary proceedings led to a rising of his nobles, and he was compelled to sign the *Magna Charta* (q.v.) or Great Charter, June 15, 1215. But he did not mean to keep the agreement, and obtaining a bull from the pope annulling the charter, raised an army of mercenaries and commenced war. The barons, in despair, offered the crown of England to the Dauphin Louis, who accordingly landed at Sandwich, May 30, 1216, and was received as lawful sovereign. The issue was still in doubt when John died.

JOHN II, king of France, surnamed the "Good": b. about 1319; d. London, April 8, 1364. He was the son of Philip VI of Valois and was a monarch distinguished alike for his incapacity and his misfortunes. In 1356 he was defeated and taken prisoner by the Black Prince at the battle of Poitiers, and detained at Bordeaux and at London till released at a heavy expense to his country by the Peace of Bretigny in 1360. On learning that his son, the Duke of Anjou who had been left as a hostage in England, had effected his escape, he returned to London, where he died.

JOHN II CASIMIR, king of Poland, sometimes known as **CASIMIR V**: b. 1609; d. 1672. He was the son of Sigismund III. Prior to becoming king in 1648, he had been a priest in France, having been made a cardinal in 1640. Soon after ascending the throne he was forced to compromise the revolt headed by Bogdan Chmielnicki (q.v.), whose Cossacks had invaded the kingdom. From 1654 to 1667 he was involved in the "Thirteen Years' War" with Russia, which was concluded by the disastrous Treaty of Andrusovo. In addition, during 1655-60 his country was also at war with Sweden, and

by the Treaty of Oliva he was compelled to cede Livonia and renounce claims to the Swedish crown. Embittered by the ill success of his reign, the king fled to Silesia and, in 1668, resigned the crown. Returning to France, he became abbot of Saint-Germain.

JOHN III (SOBIESKI), king of Poland: b. Olesko, Galicia, June 2, 1624; d. June 17, 1696. After receiving his education at home he traveled in France, England, Italy and Germany with his brother, returning in 1648 on his father's death. John II Casimir appointed him standard-bearer to the crown, and he distinguished himself in the wars against the Russians and Swedes. In 1669 Michael Koribut was chosen king, following the resignation of John II Casimir, against a party who preferred Sobieski. On the death of Michael he was chosen king, May 21, 1674. A new war with the Turks was concluded after varying success by a peace, Oct. 27, 1676. The anarchy in which Poland was constantly kept by the turbulence of its aristocracy was aggravated during the reign of Sobieski by the intrigues of his wife, and his own talent for administration was not equal to his capacity as a general. Besides internal troubles, European politics at this time occupied the attention of Sobieski, whose alliance was solicited both by Louis XIV and the emperor. He at length concluded (March 31, 1683) an alliance with the latter against the Turks, who had allied themselves with the malcontents in Hungary and threatened a most formidable invasion of the empire. Uniting with the Austrian forces, Sept. 9, at the head of a combined force of 83,000 men, he inflicted a decisive defeat on the Turks, and compelled them to raise the siege of Vienna, Sept. 12, 1683. He terminated the campaign with the capture of Gran (October 27), which had been in the possession of the Turks for nearly a century and a half.

JOHN, Augustus Edwin, British painter and etcher: b. Tenby, Wales, Jan. 4, 1879. He studied at the Slade School of Art, London, and in Paris, and became one of the leaders of impressionism in Britain. He painted several fine scenes from gypsy life, notably *Spanish Flower Girl*. His portraits were decorative in treatment, the line flowing, the color bright and attractive. He painted portraits of the principal figures at the Paris Peace Conference of 1919, notably one of David Lloyd George. Among other distinguished sitters were Lord Fisher, George Bernard Shaw, Princess Elizabeth Bibesco (the daughter of Herbert Henry Asquith), and Lord Sumner. The best of his etchings were *Coster Girl*, *Quarry Folk*, *The Valley of Time*, and *Maggie and Lucy*. Specimens of his art were acquired by the Metropolitan Museum, New York City. During the First World War he was official artist to the Canadian forces in Europe. In 1942 he was awarded the Order of Merit, one of Britain's highest decorations.

JOHN, yōn, Eugenie (pseudonym **E. MARLITT**), German novelist: b. Arnstadt, Thuringia, Germany, Dec. 5, 1825; d. there, June 22, 1887. She was the daughter of a portrait painter, and after pursuing the study of music at Vienna, lived at court for some years. She then returned to her native town and began writing novels, using the pseudonym "E. Marlitt." Her works, which were very numerous, have

been translated into English by Mrs. A. L. Wistar, and have been very popular in this country. Among them are 'Gold Elsie' (1868); 'Old Mamselle's Secret' (1868); 'Countess Gisela' (1870); 'Princess of the Moor' (1872); 'The Second Wife'; 'In the Counsellor's House.'

JOHN, Griffith, Welsh Congregational missionary: b. Swansea, 14 Dec. 1831; d. 1912. He studied at Brecon College (1850-54), then at the Missionary College, Bedford, England. He was assigned to China (1855) by the London Missionary Society, residing, till 1861, at or near Shanghai, moving then to Hankow and becoming the first Protestant missionary in central China. He made numerous trips through the contiguous country, establishing a number of churches and mission stations. With the exception of two furloughs to Great Britain (1870-73 and 1881-82), visiting the United States during the latter, he continued his services in China till 1906, when his declining health forced him resigning from missionary work.

JOHN, Sir William Goscombe, Welsh sculptor: b. Cardiff, 1860. He studied at the City of London School of Art, Kensington and the Royal Academy Schools, taking the Royal Academy gold medal and traveling studentship (1889), when he went to Paris to study (1890-91), taking the gold medal at the Paris Salon (1901). A few of his principal works are statues of King Edward VII, at Cape Town; Prince Christian Victor, at Windsor; 7th Duke of Devonshire, at Eastbourne; the historian W. E. H. Lecky, at Trinity College, Dublin; equestrian statue of the Earl of Minto, at Calcutta. Among his best-known memorials are the Marquis of Salisbury, at Westminster Abbey and in Hatfield Church; Bishop Lewis and Dean Vaughan, in Llandaff Cathedral; Sir Arthur Sullivan, in Saint Paul's Cathedral; that dedicated to the Coldstream Guards and War Correspondents, in Saint Paul's Cathedral. His works in a lighter vein contain 'A Boy at Play,' in Tate Gallery; 'The Elf,' in Cardiff Art Gallery; 'Morpheus' and 'Saint John the Baptist,' in Liverpool Art Gallery. He was created a knight in 1911 and is a corresponding member of the Institute of France, and Royal Academician since 1909.

JOHN, Epistles of. Three short epistles in the New Testament traditionally assigned to the Apostle John. The first and longest contains no definite indication as to its author or destination. It lacks the usual epistolary introduction and closing salutation. Nevertheless, it is a genuine letter and from one author, on his own sole responsibility, in spite of the occasional use of the first person plural (e.g., in chap. i). Though the author speaks with authority on matters of the Christian faith, it is the authority of fatherly affection, rather than of official position, that is felt and asserted. The inference is that the author was an old man writing to a church or group of churches whose members looked to him for spiritual guidance and regarded him with deep affection. The general purpose of the letter was to urge and lead those addressed to a fuller realization of their fellowship with God through His Son Jesus Christ, the Word of Life. He argues and pleads for the *sinless* life (confession of sin,

trust in the Divine grace, positive "walking in the light"), with special emphasis on love as absolutely essential. This can be realized only through a full acceptance of the great redemptive work of God in Christ and therefore a full confession of Jesus Christ, son of God, "come in the flesh" is indispensable. The letter aims at countervailing certain docetic and antinomian tendencies that were threatening to subvert the faith of those addressed. Linguistically and doctrinally 1 John has so much in common with the Fourth Gospel that the prevailing opinion is that it was from the same hand and for the same circle of readers. Evidence of its use from Polycarp (c. 110 A.D.) down is abundant and trustworthy.

The second and third epistles are very short letters and belong together. 2 John, addressed to a church (called "lady," Greek *κυρία*), is a message of affectionate admonition, warning against erroneous teachers ("anti-Christ"). 3 John, to Gaius, a member of the church addressed in 2 John, is of a more private and confidential character. Gaius is commended for his hospitality to itinerant missionaries. Diotrophes was probably the leading member of the church addressed in 2 John. The author, in both letters, calls himself "the elder," but does not give his name. Stylistically and doctrinally the relation of 2 and 3 John to 1 John is close, and identity of authorship is the most probable view. For literature see article on JOHN, GOSPEL OF.

EDWARD E. NOURSE.

JOHN, Gospel of. The fourth Gospel in the usual order of the New Testament writings. According to tradition, this gospel was written by the beloved disciple, John, in his old age, at Ephesus in Asia, near the end of the 1st century (90-100 A.D.). On this view, the gospel embodies the personal testimony of one of Jesus' most intimate disciples, and consequently is the most reliable and valuable of all the gospels.

To-day this traditional view is strenuously disputed. While the great spiritual value of the book is conceded, its apostolic authorship and independent or primary authority for the events of Jesus' ministry or for His teaching are denied. It is assigned to an unknown, though highly gifted, author, a Christian of Asia, who wrote in the early years of the 2d century, and was familiar with the earlier Christian literature (e.g., Paul's letters, and the Synoptics), but who felt that a new formulation of Christian truth was called for in view of the various doctrinal complications that threatened to undermine the faith of the Church. He therefore composed this "spiritual" gospel, in reality a profound doctrinal treatise rather than a gospel. The following discussion will attempt to set forth, as fully as space permits, the character of this gospel and the problem it presents for solution.

I. Contents.—Formally, at least, the plan of the gospel is simple. The purpose of the writer is plainly stated in xx, 30-31, and the book was planned to accomplish a result, namely, a *faith* in Jesus that issues in *life*. The writer sought to show why and how it is that belief in Jesus gives life, and unbelief results in death. The contents unfold simply and

naturally according to this ruling motive, as can be seen from the following brief outline:

Introductory section (the Prologue). The fact and significance of the incarnation of the Word (i, 1-18).

I. The Beginnings of Faith. How Jesus won the first believers (i, 19-iv, 54).

1. The witness of John and the first followers from John's disciples (i, 19-51).
2. The first "sign" at Cana (ii, 1-12).
3. Manifestation of His authority at Jerusalem and Judea, resulting in (imperfect) faith on the part of many. The case of Nicodemus and additional testimony of John (ii, 13-iii, 36).
4. The faith of the woman of Samaria and of the Samaritans (iv, 1-42).
5. Return to Galilee. The second "sign" and its resultant faith (iv, 43-54).

II. The Manifestations of Unbelief, culminating in the decision of the Jewish authorities to put Jesus to death (v-xii).

1. Jesus in Jerusalem cures a cripple on the Sabbath, and arouses the hostility of the Jews (v).
2. In Galilee, at a Passover season, 5,000 fed. The day following the Jews refuse to believe Jesus' claim to be the Bread of Life. Many desert Him, but the Twelve remain faithful (vi).
3. Again in Jerusalem, at Feast of Tabernacles, Jesus' claims rejected in extended debate by the Jews who are severely condemned for their unbelief (vii, 1-x, 21).
4. In Jerusalem, at a Feast of Dedication, another instance of unbelief and hostility (x, 22-42).
5. The Raising of Lazarus. In itself this was full proof of Jesus as "the resurrection and the life," but its effect on the Jews was to decide them to put Jesus to death (xi, 1-57).
6. The final public presentation of Himself at the last Passover season. Incidents of belief and welcome. The author's reflections on the great act of unbelief, the rejection of Jesus by the Jews (xii, 1-50).

III. Jesus' more complete and confidential revelation of Himself to His own (xiii-xvii).

1. The footwashing at the Supper and teaching based upon it (xiii, 1-20).
2. Disclosure of the impending betrayal and of his separation from them (xiii, 21-38).
3. Fuller teaching concerning His departure and concerning Himself and the Paraclete (xiv-xvi).
4. The great intercessory prayer (xvii).

IV. The Culmination of Unbelief, The Arrest, Trial, Condemnation, Crucifixion, Death and Burial of Jesus (xviii-xix).

V. The Victory—the raised and living Lord. Various appearances of the risen Jesus confirming the faith of the Disciples (xx, 1-29).

Conclusion (xx, 30-31).

Appendix—The reinstatement of Peter and Jesus' saying concerning the beloved disciple (xxi).

The author states (xx, 30-31) that out of the many "signs" which Jesus did he had selected certain as calculated to produce faith. It is noteworthy that there are just seven such signs ((1) ii, 1-12; (2) iv, 43-54; (3) v, 1-10; (4) vi, 1-10; (5) vi, 16-21; (6) ix, 1-12; (7) xi, 1-44). That the author intended this number to be noticed and a *symbolic significance* to be attached to it is nowhere stated. If such a symbolic principle is assumed as intentional the book at once becomes full of subtle allusions, each alleged concrete fact being intended to suggest or teach some profound spiritual truth. On this principle the entire outline of the gospel can be converted into a theological program, the key to which is furnished by the prologue. This principle is accepted by many critics and dominates most of the modern critical interpretations of the gospel.

II. Relation to the Synoptics.—The contrast between the Fourth Gospel and the Synoptics is striking. There is a marked difference not only in respect to the general plan, but as to the details of Jesus' ministry, the style of His discourses and the content of His teaching.

Instead of an account of Jesus' birth and childhood, as in Matthew and Luke, we find the profound statement of the incarnation of the Word as the introductory section. In the Synoptics we have a narrative of the work of John the Baptist, his popular preaching, his prediction of the coming One, his baptism of Jesus. In our gospel John's testimony is the all important thing, testimony given to the official representatives of the Jews or to his followers. There is no account of John's ministry as such. Our gospel omits all reference to Jesus' temptation, but devotes considerable space to the way Jesus gained His first disciples and to a ministry in Jerusalem and Judea about which the Synoptics say nothing. The great popular ministry in Galilee to which the Synoptic account is chiefly devoted is all but omitted in our gospel. It is there as an indistinct background, while in bold relief we have the two visits to Jerusalem (ch. v and vii, 2-x, 21) of which the Synoptic account says nothing. Only in the case of the feeding of the 5,000 do the two accounts meet on common ground and here the differences are as prominent as the resemblances. While the Fourth Gospel, like the Synoptics, thinks of a ministry in Perea (cf. x, 40) and also, like them, follows this with an account of the events of Passion Week and of the resurrection appearances, it relates an almost entirely different set of incidents, and in the few identical cases the account itself is characteristically different.

The Synoptic account reflects the popular tradition, of a broad and general character, of Jesus' ministry. Our gospel covers only a few selected incidents and deals with these in a very intensive and personal way. The incidents are largely of a more private nature. Note, for example, chs. xiii-xvii, devoted entirely to one evening's intimate fellowship of Jesus with His disciples.

It would seem that the author of our gospel used the Synoptic outline, assuming it to be

well known, as a working basis, and tried to adjust his own very different account to this in such a way as to cause the reader, already familiar with the Synoptic account, no serious disturbance of mind. That he succeeded admirably everyone must admit. On points of chronology he was particular. The indeterminate length of the ministry in the Synoptic account is corrected by noting the feasts—specially three Passovers—which show that the ministry covered more than two years. The cleansing of the Temple is placed at the beginning instead of the end of the ministry. The opening of the ministry in Galilee did not follow immediately upon the recognition of Jesus by John (cf. i, 35ff., and iii, 24, with Mark i, 13, 4). The last supper was on the night before the Passover and Jesus was crucified on the feast-day itself, not a day later, as in the Synoptics.

As to the *style* of Jesus' discourse there is a very remarkable difference between our gospel and the Synoptics. The parables are absent, although Jesus speaks in figures. In the Synoptics Jesus usually talks in a popular, simple, straightforward way and the common people hear Him gladly or with interest. In our gospel Jesus' speech is allusive, obscure, figurative, perpetually provoking question as to His meaning, even when speaking most confidentially to His disciples. The subjects of His discourse are not the same. In the Synoptics Jesus talks only rarely about Himself, mainly about conduct, morality, religion in the broad sense and the life it calls for. In our gospel His subject is mainly Himself: His significance, His relation to the Father, belief in Him, etc. In the Synoptics, His audience is usually the masses—the common people to whom He ministered as a physician to the sick with His "good news" of the Kingdom. In our gospel His audience is usually either some isolated individual, or the (hostile) "Jews," or His disciples.

Finally, our gospel differs from the Synoptics in that it is very definitely a *theological* writing, which cannot be said of the other gospels. The gospel opens with a section that is doctrinal in the fullest sense, a section which no one but a profound theologian could have composed. And throughout the work, in apparently simple language, doctrines of highest importance are set forth. Nothing like this is found in the Synoptics.

The facts mentioned thus far are patent to all. No theory of the gospel's origin can be accepted that fails to give a reasonable explanation of them.

III. Internal Evidence as to Authorship.

—Turning now to the question of authorship, we shall consider first the *internal* evidence. That is, what evidence, explicit or unintentional, does the book furnish as to its author, or the time and place of its composition.

Explicit statements are few and not definite. Such are i, 14f, "*we* beheld his glory," "of his fulness have *we* all received," and xix, 35, "He that hath seen (the blood and water) hath borne witness." To whom do "*we*" and "*he*" refer? Is there here a claim or assertion by the author that he was a personal disciple of Jesus? Such seems to be the view of xxi, 24, but this is in the appendix, the authorship and date of which is a problem by itself. We also find hints concerning a disciple, indefinitely in-

dicated as present (i. 35-42), at other times designated as the disciple "whom Jesus loved" (xiii, 23; xix, 26; xx, 2), or simply as "the other disciple" (xviii, 15; xx, 4, 8). So far as our limited knowledge of the Apostolic Age permits a judgment, these allusions can refer to but one individual, the Apostle John, one of the three "pillars" (Gal. ii, 9) and one of the three disciples closest to Jesus (Mark ix, 2ff. and ||s; xiv, 32ff. and ||s). In the passages cited it is not expressly claimed that the unnamed disciple was the author of the gospel or the main source of its contents, but xix, 35, taken in connection with verses 25 and 26, implies this, and such is the view of ch. xxi (cf. v. 24).

It is entirely in harmony with such a claim that our gospel assumes an intimate acquaintance with the minute details of Jesus' ministry,—the very hour when events took place, how He sat "thus" on the well-curb, details of topography, etc.,—and with the Judaism of the time when Jesus lived. It will probably be conceded by every impartial critic that no serious error has been proved against the gospel. The alleged anachronism in the name "sea of Tiberias" collapses in view of Josephus' similar, although not exactly identical, expression in his history of the Jewish War (iii, 3, 5; iv, 8, 2) written between 75 and 79 A.D. The alleged scientific objection to the "blood and water" (xix, 34) is shown to be baseless by Sir A. R. Simpson, M.D., in 'The Expositor,' 1911, Vol. II, pp. 300 ff. Many apparent improbabilities, indeed, suggest themselves, but these are not proofs that the work does not rest upon the testimony of an apostle or eyewitness.

Such, in general, seems to be the claim or assumption of the book itself, and it has been commonly received for centuries as guaranteeing apostolic authorship. But the book also gives other evidence regarding itself on which the chief stress is laid to-day by many critics and which, it is claimed, makes it impossible to hold to apostolic authorship, and necessitates a date not earlier than the first decade of the 2d century. Very briefly stated this evidence consists in the distinctly *theological* character of the Fourth Gospel and especially in the mature and developed type of its theological conceptions. The use made explicitly in the prologue of the Logos-idea and implicitly (it is claimed) throughout the book, which ever has in mind the Logos-Christ; the central significance assigned to the person of Christ, the (Logos) Son, the revealer of the Father and impartor of eternal life to those who come to know Him; the highly spiritualized eschatology in contrast to the realistic type of the Synoptics; and in general the indications that the author was familiar with and had assimilated the main Pauline doctrines, but had sought to modify or complete them in certain important respects,—such facts, it is claimed, point decisively to some one of the post-apostolic generation as the author. It is also claimed, and not without reason, that the author had in mind certain Docetic and Gnostic errors which he attempted to refute, errors that were particularly prevalent and dangerous in the first decades of the 2d century. Admitting the correctness of these observations, the problem is, do they *decisively prove* that the gospel could not have been written by the Apostle John?

Arguments drawn from the *structure* of the book are of uncertain value. In both style and structure the gospel is unique and amenable to no rule. Certain sections, as chs. v and vi and chs. xv and xvi, appear to have been shifted from their original positions, but minute study reveals so many instances of abrupt transitions, of broken or interrupted narrative or discourse, and of unexplained situations that the simple hypothesis of misplaced sheets (of the original MS.) will not suffice. It is a case either of extensive editing by a later hand of a document originally shorter and more orderly than our present gospel, or of a work unique in character and quite careless of ordinary rules of composition. If it is a case of editing, the task of ascertaining the scope and order of the original (apostolic?) material is a hopeless one.

One must admit, therefore, that the internal evidence, drawn from the book itself, is not clear, either as to its date or author. It seems to claim an eyewitness of Jesus' ministry, even a "beloved disciple," as its author. On the other hand, the quality of its theology and the stage of theological development and the character of the theological controversies presupposed in the book seem to indicate a date when authorship by an apostle becomes very questionable. Its other internal characteristics are not decisive.

IV. The External Evidence.—The testimony of early Christian writers after about 160 A.D. is practically unanimous as to the early date and Johannine authorship of the gospel. Even the sole known exception, the small and obscure group in Asia Minor, later called the Alogi, with possibly the Roman presbyter Gaius, did not dispute the early date, though they asserted that the gnostic Cerinthus was its author. Such writers as Theophilus of Antioch, Irenæus of Lyons, Clement of Alexandria and Tertullian of Carthage assumed that the Johannine authorship was indisputable. They knew of no other tradition. But as our inquiry is pushed back toward the beginning of the 2d century traces of the use or knowledge of the gospel become increasingly uncertain. It must be remembered, however, that the same thing is measurably true of each one of the Synoptics, especially Mark, the oldest gospel of all. Justin Martyr (140-50 A.D.) almost certainly used our gospel as the work of the Apostle John. Ignatius of Antioch (110-17 A.D.) was acquainted with its type of thought and may have read it. Both Papias (c. 140 A.D.) and Polycarp (110-17 A.D.) made use of 1 John, which speaks for rather than against their knowledge of the gospel, but this is all that can be said with confidence. The evidence that Basilides, the Egyptian Gnostic (c. 130), used our gospel is strong, though not free from uncertainty. That I Clement, written in the West, at Rome, about 96 A.D. contains no allusion to this gospel is not surprising. In case the gospel was written in Asia between 90 and 100 A.D. a reasonable time must be allowed for it to have become generally circulated and known as familiarly as the older gospels were. When this is taken into consideration the evidence for the gospel compares very favorably with that in favor of Mark, for example.

The reliability of the tradition that the Apostle John lived "to the times of Trajan" (98-117), as it is expressed by Irenæus, and that the later part of his life was spent in

Asia (Ephesus) has been emphatically disputed by many critics, especially since DeBoor proved from newly-discovered evidence that Papias probably said something about John being put to death by the Jews. But the exact wording of Papias' statement has not been recovered, nor the context to which it belonged. Until we have more than only a few fragments of Papias' work in our hands, we shall not be able to base any conclusions on what he may have said or meant. Irenæus' testimony as to how he himself, in his youth, heard Polycarp of Asia speak of his intercourse with the Apostle John is positive and cannot easily be brushed aside. Then there is the obscure figure of an "Elder" named John, spoken of by Papias, who may have become confused, even as early as c. 140-50 A.D., with the Apostle John.

V. Conclusions.—The decision of the critical question is, it is evident, beset by great difficulties. The external evidence, while on the whole favorable to Johannine authorship, is not strong enough to be considered decisive. The internal evidence is conflicting. It is both for and against the traditional view. Each of the opposing views can be supported with forcible arguments, and a decision will probably be found to rest mainly on one's personal equation.

No one knows (historically) when the Apostle John died, nor where or how he spent his last years. No one knows what were his mental and spiritual gifts. No one can say that he could or could not have written such a book as the Fourth Gospel. But these things are practically certain: the Fourth Gospel must have been composed *after* the Synoptic tradition was generally accepted. It was composed by one who was richly endowed with spiritual insight, who had a profound Christian experience, and who had thought deeply on some of the greatest problems of theology and was able to discuss or state them in marvelously simple and concise language. Can any one say positively that an aged apostle could not have planned deliberately a "spiritual" gospel in which the words and deeds of Jesus were to be treated symbolically rather than literally?

However the problem of authorship may eventually be solved, the fact remains that in the Fourth Gospel the Christian Church possesses a treasure of priceless worth. To the spiritually minded of all the Christian centuries this gospel has ministered more effectively, probably, than any other New Testament Book. It has spoken untold comfort to the troubled and sorrowing. A mystic influence emanates from it and under its spell God and eternal life become realities of experience. Whoever wrote it had sounded the depths of the revelation of Christ. Through its influence the early Church was enabled to clarify and unify its faith, and realize the full significance of the gospel in an age when subtle speculations threatened to strangle its life and confuse its mind.

Bibliography.—The literature on the Fourth Gospel (including usually a consideration of the Epistle of John) is extraordinarily extensive and cannot be listed here. The most serviceable recent list will be found in Moffat's 'Introduction to the Literature of the New Testament' (New York 1915). Of special importance are the following: Zahn, 'Introduction to the New Testament' (Vol. III, Edinburgh

1909; Bacon, B. W., *The Fourth Gospel in Literature and Debate* (1910); Brooke, A. E., *Critical and Exegetical Commentary on the Johannine Epistles*, in *International Commentary* (1912); Carpenter, J. E., *Johannine Writings* (1927); Bernard, J. H., *Critical and Exegetical Commentary on the Gospel According to St. John*, 2 vols., in *International Critical Commentary* (1929); Dodd, C. H., *Background of the Fourth Gospel* (1935); Strachan, R. H., *Fourth Gospel* (1943); Howard, W. F., *Fourth Gospel in Recent Criticism and Interpretation*, 3rd ed. (1915); Dodd, C. H., *Johannine Epistles*, in *Moffatt New Testament Commentary* (1946).

JOHN, Order of Saint, a military religious order, once a great power in Europe and the Near East. First known as Knights Hospitallers of St. John, its members were subsequently called Knights of Rhodes and at a more recent epoch Knights of Malta. About 1048 merchants of Amalfi founded a monastery for Benedictine monks in Jerusalem near the Holy Sepulcher, with an attached hospital. During the First Crusade Godfrey of Bouillon having made large donations to the hospital, its director Gérard detached it (1099) from Benedictine tutelage and initiated a new religious congregation, the Hospitallers of St. John or Brothers of St. John of Jerusalem. His successor Raymond du Puy gave the order a constitution, confirmed by Pope Paschal II in 1113. During the 12th century military obligations were added to hospital duties and the principal object of the knights became the armed defense of Christians against the infidels. After Saladin's conquest of Jerusalem (1187) the knights seized Acre (1191) which they held for a century, retiring to Cyprus in 1291. They conquered the island of Rhodes in 1310 and for two centuries called themselves Knights of Rhodes, until expelled by Suleiman the Magnificent in 1522, after a heroic defense. The Emperor Charles V established them at Malta in 1530; since then they have been called Knights of Malta. In 1565 their grand master Jean de La Valette repulsed an attack of Suleiman in a bitterly fought action.

At the height of its power in the 16th century the Order of Malta, headed by a grand master, was divided into eight "languages" or nations: Provence, Auvergne, France, Italy, Aragon, Germany, Castile, and England. Each nation was subdivided into commanderies, priories and bailiwicks. To the three monastic vows members added that of caring for and defending pilgrims. They were divided into three classes: the nobles or knights; the priests or chaplains; and the serving brothers who cared for hospitalized sick but also at need served as soldiers. Knights wore on the left breast a white Maltese cross, its eight points signifying the beatitudes to which they aspired.

The knights surrendered Malta to Napoleon in 1798. England's capture of the island in 1800 forced their withdrawal to France and Italy, Rome thenceforth becoming their headquarters. Pius VII reduced the languages to Italian and German and provisionally placed a lieutenant master in command. Pius IX in 1854 modified the statutes of the order, and in 1880 Leo XIII gave it the Church of St. Basil and the Mount Aventine priory. France severed official relations with the knights during the French Revolution but resumed them in 1924. In addition to commanderies in Italy the order maintains priories in Silesia and Bohemia, also associations of knights elsewhere. It supports numerous hospitals and in wartime organizes, equips and staffs ambulances, hospitals and hospital trains.

Protestant associations not recognized by the Roman Catholic order but having similar humanitarian aims are the Grand Priory of the Venerable Order of the Hospital of St. John of Jerusalem in the British Realm (1831, incorporated 1888) of which King George VI is sovereign head, and the Bailiwick of Brandenburg (1852) with branches in various parts of Germany. In the United States and Canada there are several organizations, both Protestant and Catholic, including the Association of Master Knights of Malta chartered by the Sovereign Order (Rome) in 1929.

JOHN, Saint. See SAINT JOHN.

JOHN B. STETSON UNIVERSITY, a coeducational school founded as De Land Academy in 1883 at De Land, Fla., under the auspices of the Baptist denomination. The institution became De Land University in 1887, but in honor of John Batterson Stetson (q.v.), who bestowed large gifts on the university, nearly all of the buildings and the campus, the name was changed in 1889. In 1953-1954 the institution comprised colleges of arts and sciences, law, music, and business. Total enrollment of graduate and undergraduate students in 1952-1953 was 1,756.

JOHN BROWN'S BODY, a narrative poem by Stephen Vincent Benét published in 1928 and awarded the Pulitzer Prize for poetry in the following year. It is a ballad-epic of the American Civil War.

After an invocation to the American spirit, and a prelude ("The Slaver"), the poem is divided into eight books. Book One narrates John Brown's raid on Harpers Ferry, and introduces the fictitious characters—Jack Ellyat, of Connecticut, and Clay Wingate, of Wingate Hall, Georgia—who as representatives of North and South are to furnish continuity in the story. Book Two opens with the fall of Fort Sumter, and centers on the Battle of Bull Run. Book Three centers on Shiloh; Book Four, on McClellan's campaign in the Peninsula. Book Five is devoted to symbolic figures, from Lincoln meditating in the White House to a runaway Negro named Spade, and to the exchange of sick and wounded prisoners. Book Six is Chancellorville; Book Seven, Vicksburg and Gettysburg; and Book Eight summarizes the falling action in the last two years of the war.

The poem is written in a variety of meters, including irregular blank verse with occasional prose passages of summary. Though five of the eight books center on major campaigns, it is not primarily a military epic. Its dominant motif is the power of ideas and of personalities. The leaders on both sides are drawn with penetrating insight; some of them—Lincoln, Davis, Lee, Grant, Jackson—at full length, minor characters in vivid thumbnail sketches of a line or two. The central theme is the saving of the Union and the freeing of the slaves, but to preserve the human scale the figures of Jack Ellyat and Clay Wingate recur, with their fighting, their wounds, and their love affairs. Wingate loves Sally Dupré, and finds her at last amid the ruins of his home and his cause; Ellyat is reunited with Melora Vilas, the Tennessee mountain girl who had succored him after Shiloh, and who had borne his child.

To some contemporary critics, the poem is

suspect because it is lucid. But its lucidity is not shallowness; through it the reader discerns profound emotional and artistic insight infused with an almost mystical patriotism.

DELANCEY FERGUSON,
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JOHN BROWN'S BODY, a popular marching song of the American Civil War. Its tune came from that of a hymn known to have been sung in the South in the late 1850's. The hymn, which had a "Glory, glory, hallelujah" refrain, was written by William Steffe in an indeterminate year. It was sung by the glee club of the "Tigers," a battalion of Massachusetts Infantry stationed at Fort Warren in the Harbor of Boston, Mass.; and after the hanging of John Brown, the abolitionist, the glee club improvised the words of *John Brown's Body* to the melody. The "Glory, glory, hallelujah" refrain was kept. The song was taken up by other regiments, and on the march south its fame spread. In December 1861, Julia Ward Howe wrote the words of *The Battle Hymn of the Republic* to the song after hearing troops singing it while going into battle near Washington, D.C. Popularly the song is often known by its opening words, "John Brown's body lies a-mouldering in the grave." Thomas Brigham Bishop of Portland, Me., is sometimes given as the composer.

JOHN BULL, a popular nickname applied to England or its citizens. See **NICKNAMES**, **NATIONAL** AND **POPULAR**.

JOHN CRERAR LIBRARY, The. See **LIBRARIES—UNITED STATES**.

JOHN DAMASCENE, Saint. See **JOHN** OF **DAMASCUS**.

JOHN FREDERICK (called the **MAGNANIMOUS**; Ger. DER GROSSMÜTIGE, dër grös'-mü'ti-gë), elector of Saxony: b. Torgau, Saxony, Germany, June 30, 1503; d. Weimar, Thuringia, Germany, March 3, 1554. A member of the Ernestine line, he was the eldest son of John the Constant. He succeeded him as elector in 1532, and became one of the leaders of the Schmalkaldic League. He wavered in his loyalty to Emperor Charles V, but in 1546-1547 was forced into war with his cousin of the Albertine line, Maurice, duke of Saxony, who sought the electorate for himself. In the Battle of Mühlberg (1547) he was taken prisoner, and was forced to renounce the electorate in favor of Maurice. Released in 1552, he failed to regain the electorate thereafter.

JOHN GILPIN, or in full *The Diverting History of John Gilpin, showing how he went farther than he intended and came safe home again*, a famous humorous ballad by William Cowper, written about October 1782 and printed anonymously the next month in the *Public Advertiser*. The runaway adventure it describes is said to have happened to a certain John Beyer, linen draper, and the name John Gilpin is thought to have been taken from a tombstone in Saint Margaret's, Westminster. It is more certain that the story was told Cowper by his friend, Lady Austen, in order that she might relieve him in one of his periods of gloom. He is said to have been so amused that he could not sleep until

he had got out of bed and written down some of the stanzas as they had come to him. Then he polished and added, sending portions across the street for the approval of a jocular barber friend. When published, the poem made its way fairly well, but it broke away like Gilpin's horse and got its great start toward its unbounded popularity through the recitations of it given in 1785 by the actor Henderson. The same year it was included in the same volume with *The Task*, and doubtless helped to make that a success. It has never since declined in popularity, and one fails to see how it ever can, so long as people display a propensity to laugh at the not clearly dangerous misadventures of others, and so long as a free natural style and a genuine fund of humor varying from arch to almost rollicking are as rare as they seem to be among literary gifts.

WILLIAM P. TRENT.

JOHN HALIFAX, GENTLEMAN, a novel by Dinah Maria Craik, in which the hero, John Halifax, one of "nature's noblemen," beginning life as a poor boy, works his way up to prosperity and happiness, by means of his high principles, undaunted courage, and nobility of character. The heroine is Ursula March, and the simple domestic story includes few minor characters. The interest lies in the development of character. The author's assertion is that true nobility is of the soul and does not inhere in wealth, in learning, or in position; and that integrity and loftiness of purpose form the character of a true gentleman.

JOHN HENRY, American Negro folk hero, celebrated in stories, in a ballad of the same name, and in other songs. The real John Henry is said to have been a hammer man who died in a cave-in while he was helping to dig the Big Bend Tunnel of the Chesapeake and Ohio Railroad through the West Virginia hills in about 1873. According to legend, however, he outdrove a steam drill with hammer and steel, and, exerting himself too much, "died with his hammer in his hand." The other tales and songs about John Henry, some of which originated before the contest with the steam drill, celebrate his strength and his prowess with women. The stories told about him were combined and reconciled by Roark Bradford in *John Henry* (1931), dramatized by Bradford in 1939 and produced in the following year, with music by Jacques Wolfe.

JOHN INGLESANT, by J. Henry Short-house, a well-known novel first published in 1881 belonging to the type of fiction represented by Kingsley's *Hyppatia* and Pater's *Marius the Epicurean*. The author called it a philosophical romance, designing it to be a means of presenting philosophy under the guise of fiction. The method is generally that of Reade's *The Cloister and the Hearth*, by which is unrolled a panorama of the life of a period in various lands. *John Inglesant* is, however, concerned far less with a brilliant picture of personalities and customs in many countries than with expositions of dominant religious and political ideas. The hero from whom the book takes its name is the descendant of a family established and enriched during the religious transformations of Henry VIII, but his own time is that of the Commonwealth. Educated under the influence of a Jesuit

with a view to future services to the Roman Church, he becomes an important member of King Charles's entourage and as such not only sheds his blood in the Royalist cause but meets representatives of nearly all the English factions and sects. As a confidential emissary of the king, he barely escapes suffering his master's fate. On his release from two years' imprisonment he goes to France, where he mingles with the Royalist refugees and becomes acquainted with important types of French religious thought. An important mission leads him to Italy, where he remains for several years, influenced by and influencing, as well as merely observing, the intricate play of religious politics and faiths, of character and custom, until his final return to England. Throughout, the chief end of the novel is to represent a cross section in several countries of a dominant interest and to expand various views, to such a degree, indeed, that the personal characters are very much obscured and the people become rather types and mouthpieces than individuals.

WILLIAM T. BREWSTER.

JOHN NEPOMUK SALVATOR, nă'pō-mōk zal vā'tōr, archduke of Austria and prince of Tuscany: b. Nov. 25, 1852, Florence, Italy; d. probably 1891. The youngest son of Grand Duke Leopold II of Tuscany, he entered military service and rose to command of a brigade (1878). His publication of *Drill oder Erziehung* (1883) brought him into disfavor for criticizing military authority. In 1887 he sought unsuccessfully to gain the Bulgarian throne for himself, and was deprived of his military command. Resigning his title, he took the name Johann Orth in 1889. In 1890 he sailed in command of the *Sankt Margaretha* for South America, and is thought to have died in a shipwreck in 1891. Besides other military publications, he wrote the libretto for a ballet, *Die Assassinen*.

JOHN OF AUSTRIA (Span. *Juan de Austria*; commonly known as DON JOHN), Spanish general and admiral: b. Regensburg, Bavaria, Germany, Feb. 24, 1547; d. near Namur, Belgium, Oct. 1, 1578. He was an illegitimate son of the Emperor Charles V by Barbara Blomberg, and in 1550 was sent to Spain, where he was reared. The will of Charles V recognized him as his son, and recommended him to Philip II, who created him a prince of Austria. In 1568 he commanded a squadron which fought the Barbary pirates, and in 1569–1570 suppressed the Morisco rebellion in Granada. As admiral of the combined fleets of the Holy League he won the great naval battle of Lepanto over the Turks (Oct. 7, 1571). In 1576 he was named governor general of the Netherlands. He made concessions to the rebellious Dutch provinces, but resumed hostilities and had won, with Alessandro Farnese, the victory of Gembloux (1578) over William the Silent when he died suddenly.

JOHN OF BRIENNE, brē'en', titular king of Jerusalem: b. about 1148; d. 1237. He became king in 1210, when he married Marie de Montferrat, Queen of Jerusalem. Upon her death in 1212, he became regent for their daughter, Yolande. During the Fifth Crusade he besieged Damietta. In Europe from 1223 to 1229, he arranged his daughter's marriage to Emperor Frederick II (1225). When Frederick claimed

the throne of Jerusalem he led the papal armies against him in Italy, but was defeated. He was elected emperor in 1229 by the barons of Constantinople to serve during the minority of Baldwin II, and in that capacity repelled troops of the Greeks and Bulgars.

JOHN OF DAMASCUS, dā-mās'kūs, or **JOHANNES DAMASCENUS**, jō-hān'ēz dām'a-sē'nūs, or **JOHN DAMASCENE**, dām'-ā-sēn, Saint, theologian and doctor of the Eastern Church: b. Damascus, Syria, about 675; d. probably 749. The son of a Christian who held a government office under the Saracen caliph, he received an education in theology and philosophy from an Italian monk named Cosmas. He fell heir to his father's office, but resigned it and entered the monastery of St. Sabas, near Jerusalem, in Palestine, where he was later ordained priest. His three treatises defending orthodoxy against iconoclasm were influential, and his hymns rank high in Eastern hymnody. He is said to have taken part in the composition of the *Octoechus*, a liturgical book of hymns for certain ferial offices. He is chiefly known, however, for *The Fountain of Wisdom*, an encyclopedic work in three parts (including, as part 3, *Exposition of the Orthodox Faith*), systematizing and defending Eastern dogma. It influenced the scholastics. The epithet Chrysorroas (gold-streaming) was given him as a tribute to his eloquence. He was canonized by both Greek and Latin churches.

JOHN OF GAUNT, gōnt, DUKE OF LANCASTER, English statesman: b. Ghent, Belgium, March 1340; d. London, Feb. 3, 1399. The fourth son of Edward III, he married Blanche of Lancaster in 1359, and through his marriage to her succeeded to the dukedom of Lancaster in 1362. He accompanied his brother Edward, Prince of Wales, on the unsuccessful expedition to aid Pedro el Cruel. After the death of Blanche (1369) he married Constance, Pedro el Cruel's daughter (1372), and took, in her right, the title of king of Castile and Léon. He led armies of the English invading forces in France in 1369 and 1370. It is thought that he had hopes of seizing his Spanish kingdom from Henry II of Castile when he led the futile expedition from Calais to Bordeaux in 1373. Meanwhile, he became increasingly unpopular in England.

His political power, however, increased, and following the death of the Prince of Wales in 1376 he virtually ruled England until the death of the senile Edward III (1377). He led the barons' party against the clerical party, and supported John Wycliffe in his struggle with the latter, although he did not share Wycliffe's religious views. During much of the minority of his nephew, Richard II, he was the dominant royal administrator. Richard distrusted him, suspecting him of designs on the succession, and gave him every assistance in 1386, when he left England to attempt the taking of his Spanish throne. Though defeated militarily, he had a diplomatic success, for the result was the transferring of the claim to one of his daughters by Constance, Catherine, and her marriage to Prince Henry (later King Henry III) of Castile (1388). He returned to England in 1389, and thereafter exerted his influence in Richard II's behalf. He brought about a reconciliation of his brother, Thomas of Woodstock, Duke of

Gloucester, with the king, and in 1390 the king created John of Gaunt duke of Aquitaine. He took a leading part in the conclusion of a truce with France in 1394. During his absence Constance died. He married Catherine Swynford, his mistress, in 1396, and secured the legitimization of his four children by her, known as the Beauforts. In 1397 his predominance was challenged by Thomas of Woodstock and others, and John of Gaunt and his family took leading parts in the prosecution of Richard Fitzalan 4th earl of Arundel.

John of Gaunt was a patron of Chaucer, and appears as a character in Shakespeare's *Richard II*. The House of Lancaster, which gave several kings to England, was founded by him. His eldest son, Henry Bolingbroke, his son by his first wife, Blanche, became King Henry IV. The exiling of Bolingbroke in 1398 broke his father's spirit. The eldest Beaufort was an ancestor of Henry VII.

JOHN OF LANCASTER, DUKE OF BEDFORD, English nobleman: b. June 20, 1389; d. Rouen, Sept. 14, 1435. He was the third son of Henry IV of England. His brother, Henry V, created him duke in 1414. In 1416 he commanded the fleet which defeated the French in the English Channel, and in 1417, at the head of an army, he brought about the retreat of Scottish raiders. After the death of Henry V in 1422, he became regent for Henry VI, whom he had proclaimed king of France as well as England, Charles VI of France having died in the same year. He commanded the English army against Charles VII, defeated the French at Verneuil (1424), and had other successes, but the siege of Orléans (1428-1429) and the appearance of Joan of Arc (1429) marked the end of his triumphs. He permitted Joan's execution as a witch in 1431. His first wife, Anne of Burgundy, died in 1432, and his remarriage (1433) is said to have helped bring about the breaking of Philip of Burgundy's alliance with England. Shortly before Lancaster's death Philip became an ally of Charles VII, and thus brought to an end English control over France.

JOHN OF LEYDEN. See ANABAPTISTS—*Münster Anabaptists*.

JOHN OF NEPOMUK, ně'pò-mòók, or **POMUK**, pò'mòók, **Saint**, patron saint of Bohemia: b. Nepomuk, Bohemia, about 1340; d. March 20, 1393. Vicar general of the Archdiocese of Prague in 1393, he was thrown into the Moldau River at the command of Wenceslaus IV of Bohemia, and drowned. He was canonized in 1729. According to one story, he incurred the king's displeasure by opposing his attempt to transform an abbey into a cathedral; according to another story, he incurred displeasure by refusing to reveal to the king the content of the queen's confession. As a result of the different stories, some scholars have entertained the idea that there were two clerics by the same name and that both of them were murdered at the command of Wenceslaus.

JOHN OF SALISBURY, English scholar and prelate: b. Salisbury, England, about 1115; d. Chartres, France, Oct. 25, 1180. He studied at Paris under Peter Abelard, and laid the basis for his classical scholarship while studying at

Chartres. He seems to have been attached to the papal court beginning in about 1148. He served as secretary to two archbishops of Canterbury, Theobald and Thomas à Becket. A supporter of Becket's cause, he was with him in France from 1164 to 1170, and after their return was a witness to his assassination. He was appointed bishop of Chartres in 1176, and occupied this see until his death. As prelate, philosopher, theologian, jurist, and historian he was honored by his contemporaries. In 1159 he completed his two principal works: *Polycraticus*, a treatise on church and state government, setting forth a society in which temporal power is delegated by the church to the prince, who holds it as long as he rules by law; and *Metalogicus*, sharply censuring formal scholasticism and providing a view of the intellectual life of the time. He also wrote *Historia Pontificalis*, *Entheticus de dogmate philosophorum*, and lives of Anselm and Thomas à Becket. His letters shed important light on contemporary history. His collected works, in five volumes, were edited by J. A. Giles (1848).

JOHN OF THE CROSS, **Saint** (Span. SAN JUAN DE LA CRUZ), Spanish mystic and poet: b. Fontiveros, Avila Province, Spain, June 24, 1542; d. Úbeda, Jaén Province, Spain, Dec. 14, 1591. He was a Carmelite friar, and his real name was Juan de Yepes y Alvarez. He attended the poor school at Medina del Campo, studied with the Jesuits, and in 1563 became a Carmelite. In 1567, after four years of study at Salamanca, he was ordained priest. He concerned himself with promoting among friars the Carmelite reforms of St. Teresa, and founded monasteries of the Discalced Carmelites. Imprisoned by the unreformed Carmelites in December 1577, he escaped in August 1578. Later, having supported a defeated faction among the Discalced Carmelites, he was deprived of his offices in that order, and at the time of his death, in a remote spot in Andalusia, was out of favor. He was canonized in 1726, and made a doctor of the church in 1926.

His *Obras espirituales* (1618) includes the great mystical poems *Noche oscura del alma* ("Dark Night of the Soul"), *La Llama de amor viva* ("Flame of Divine Love"), and *El cántico espiritual* ("Spiritual Canticle"). The commentaries which he wrote to accompany the poems give clear explanations, and are important documents in the history of mysticism. A revised edition of his complete works, in three volumes, translated and edited by E. Ellison Peers, appeared in 1953.

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JOHN O'GROAT'S HOUSE, a spot on the northern coast of Scotland, in Caithness County, 17 miles north of Wick and 2 miles west of Duncansby Head. It is a terminus for "end to end" races, either within Scotland or covering the whole length of Great Britain. The phrase "from John O'Groat's to Land's End" is a term long used to represent the entire length of Great Britain, although the actual northernmost point is Dunnet Head, several miles from John O'Groat's. The John O'Groat's site is said to have been occupied by an octagonal house supposedly erected for the annual meeting of de-

scendants of John de Groot, a Dutchman who came to Scotland to settle in the reign of James IV of Scotland. The octagonal shape of the house is accounted for variously. One story relates that the house was built as an octagon to solve a problem of precedence among the descendants, each of whom was thereby enabled to enter the house by his own door and sit at the head of the table, which too was octagonal.

JOHN PAW, a large and beautiful grouper (*Epinephelus drummond-hayi*), which is umber brown densely covered with small white spots. It inhabits the Gulf of Mexico, and is also known in Bermuda. It is sometimes called the speckled hind.

JOHN THE BAPTIST, the "forerunner" of Jesus Christ. He was the son of Zacharias, a Jewish priest, whose wife, Elizabeth, was also of a priestly family. The dates neither of his birth nor of his entrance on his public work can be fixed with unmistakable certainty. For his birth, dates varying from 8 to 4 B.C. have been proposed, and the beginning of his ministry must have been about 26 to 28 A.D. According to Luke he was born when his parents were extremely old, and the evangelist adds a story of great beauty about the vision of Zacharias while engaged in his priestly duties in the temple, and the visit to Elizabeth of her relative Mary, the Virgin Mother of Jesus. Of the life of John before he steps out into public activities we know little. The home of his parents was in one of the hill towns of Judea, but there is no good ground for naming any particular city, as has sometimes been done. From his birth he had been dedicated as a "Nazarete," that is, he was under obligation to allow his hair and beard to grow untrimmed, to refrain from all use of wine and other intoxicants, and especially to avoid every contact with dead body. He seems while still young to have eschewed not to take the honored office of priest which would have been his by hereditary right and to have withdrawn to the desolate and lonely desert of Judea, which the presumably early death of his parents would leave him quite free to do. There he lived with the utmost simplicity, dressed in a robe of coarse camel's hair cloth and eating the locusts and wild honey which abounded in that wild region to the west of the Dead Sea. The notion that he was associated with the Essenes, ascetics dwelling in communities in the desert, though earlier held by some, has nothing in its favor and has now scarcely any advocates. It is not surprising that when John suddenly began to preach he aroused wide and deep interest amounting to general enthusiasm at first throughout Judea, and then elsewhere as he extended his ministry along the whole Jordan Valley. The very figure of the gaunt and meanly clad desert dweller must have been striking; his vehement warnings against sin and demands for thoroughgoing repentance were most impressive, and these were reinforced by the assertion that the prophecies of the King and divine kingdom to which he had so long sustained the faith and kindled the hopes of Israel were now near to fulfillment. Never had the summons to repentance been so vehement, and never had it been reinforced with such a motive, "The expected King will speedily set up his promised kingdom of righteousness: repent, therefore, that by righteousness the nation may become fit to receive its

King." Throngs of all classes of society flocked to listen to hear the trumpet message of the desert evangelist, and multitudes were plunged in baptism beneath the waters of the Jordan in token of their obedience to his message, pledging themselves as penitents to the service of the "One who was to Come."

But the most significant point in the ministry of John was reached when Jesus came from Nazareth and in spite of protestations insisted on baptism at his hands. The details of the event are not fully recorded. The later statement of the Baptist that he had not known Jesus before his baptism may mean only that before that he had no grounds for definitely recognizing him as the Messiah whose coming he was foretelling, or it may mean that in spite of their possibly remote cousinship John and Jesus had had no previous personal acquaintance at all. The hesitation of John to baptize Jesus may have rested on earlier knowledge of his character, but it may also have developed at the first interview. It is frequently assumed that the heavenly sight and sound which we are told accompanied the baptism were shared by the crowds who are supposed to have been present, but this is nowhere asserted, nor indeed is it necessarily implied that any others than John and Jesus were present at the time. The Synoptic Gospels deal chiefly with the work of John up to the baptism of Jesus, while the Fourth Gospel gives his testimony to Jesus afterward, and so there is no such inconsistency between the reports as is sometimes said to exist. According to the Fourth Gospel, which purports to be by the Apostle John, possibly a relative of the Baptist and at any rate one of his followers, the impression made by the baptismal scene was such that he was convinced that the Messiah had now come, and while he did not modify his preaching, leaving it to Jesus to reveal himself in his own way, he privately pointed him out as "The Lamb of God who should bear away the sin of the world," and some of his disciples consequently at once transferred their allegiance to Jesus.

That after this clear recognition John sent some of his disciples to seek from Jesus an explicit assertion of his Messiahship has sometimes been explained as due to a desire to obtain confirmation of the faith of these disciples, but the answer of Jesus makes it probable that it was due to some lack, at the time at least, of positive conviction in John's own mind, perhaps because the method of Jesus in presenting himself to the nation was not what John had expected, an uncertainty very probably intensified by the depression which his imprisonment may be presumed to have caused or intensified. But in the discourse which followed Jesus took occasion to eulogize John as greater than any of the prophets, as the greatest man who had ever lived.

After his recognition of Jesus as the One for whom he was preparing the way, John continued his work for a time, perhaps for some months, presumably with the feeling that the people still needed in mind and life the work which he had been doing. But his fidelity to his mission as a preacher of repentance and right living soon cost him his liberty and in the end his life. Herod Antipas, the ruler under Rome of Galilee and Perea, had taken to himself the wife of his brother Herod Philip. This doubly adulterous connection John denounced openly and apparently to Herod's own face, having perhaps been summoned by him to preach at court. This

aroused such a fury of hate, especially in Herodias, the woman in the case, that John was imprisoned in the fortress of Machaerus near the Dead Sea, in the ruins of which marks of fetters may still be traced on the walls of the dungeons. Finally after perhaps months of hesitation on the part of Herod, by the shameful artifice of allowing her daughter Salome actually to appear as a dancing girl before Herod and his guests at a feast, he was induced to swear that he would give the girl whatever she asked, and when she demanded in fulfillment of this rash promise, "The head of John the Baptist on a platter at once," he was beheaded in the prison and the head was carried to Herodias, who is said to have wreaked her fury on the inanimate object of her hate. There seem to have been for years groups of men who were known as disciples of John the Baptist, but with this tragedy his great influence ended, for though, as Jesus called him, he was "a light that burned and shone," yet as he himself said in his forecast of his relation to Jesus, "He must increase, but I must decrease."

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JOHN THE CONSTANT, Elector of Saxony: b. Meissen, Saxony, June 30, 1468; d. Schweinitz, near Wittenberg, Germany, Aug. 16, 1532. He was the fourth son of Elector Ernest. He succeeded his brother Frederick III as elector in 1525, and declared himself emphatically in favor of the Reformation. In 1526 he joined the Alliance of Torgau, hindering the agitation of the followers of the old faith and placing his coreligionists in a position to form a unanimous party at the Diet of Spires of that year. He was a leader of the princes who protested the measures taken by the Diet of Spires of 1529 (thus becoming one of the first to be named Protestant). He signed the Augsburg Confession (1530), and helped organize the Schmalkaldic League (1530-1531). He was succeeded as elector by his son, John Frederick.

JOHN WOOLMAN'S JOURNAL, the autobiography of the American Quaker minister first published in 1774 and subsequently often reprinted. Charles Lamb's advice, "Get the writings of John Woolman by heart," is well known, and other sensitive and idealistic critics, English and American, have been equally enthusiastic over Woolman's chief work, his *Journal*; but among practical Americans of today it is to be feared that the book is oftener praised than read. It was begun when Woolman was 35 years old, and was continued until his death, in 1772, at the age of 52. Though it is called a journal, it goes back to recount the events of his whole life, particularly his spiritual experiences. It is notable that among the few American classics that have come down from the 18th century are the autobiographies of two men who represent opposed tendencies in American thought—Franklin and Woolman. In contrast with Franklin's extreme practicality stands Woolman's disregard of worldly things, and his readiness to sacrifice property, convenience, and bodily comfort for the sake of principle, and

even for reasons of conscience so slight as to seem almost whims. Thus, on his trip to Europe he endured all the hardships of the steerage for the reason, as he says, "that on the outside of that part of the ship where the cabin was I observed sundry sorts of carved work and imagery; that in the cabin I observed some superfluity of workmanship of several sorts," and he felt a scruple against paying a passage rate that was greater because of these worldly adornments. Woolman was, however, no ordinary crank or eccentric reformer. The genuineness and sweetness of his character impel us to respect him when he goes to the greatest extremes in matters of conscience. He did not, like Franklin, pay deliberate attention to the mastery of style, but his singularly pure and limpid prose seems a natural expression of the man himself.

WILLIAM B. CAIRNS.

JOHNNY REB, in United States history, a nickname given to the Confederates by the Federals during the American Civil War, when they were usually termed rebels in the Northern states. Confederate soldiers called their adversaries Yankee, Yanks, or Blue-bellies, alluding to the color of their uniforms, which contrasted with the Confederate gray.

JOHNNY VERDE, or **JUAN VERDE**, a fish belonging to the genus *Paralabrax*, confined to the coasts of tropical America. The species *Paralabrax nebulifer*, known locally as the johnny verde, frequents the Pacific coast from Monterey to Lower California, where it is an important food fish. It is usually found in shallow water, grows to 18 inches length, and is of a greenish color with mottlings irregularly pale and dark. The spotted *cabrilla*, *Paralabrax maculatofasciatus*, of this genus is found from San Pedro, Calif. to Mazatlan.

JOHN'S, Eve of Saint. See EVE OF SAINT JOHN'S FEAST.

JOHNS HOPKINS UNIVERSITY, a university at Baltimore, Md., founded by Johns Hopkins (q.v.), who was born in Maryland and amassed a fortune in Baltimore. He died in 1873 and bequeathed \$3,500,000 to found a university. Opened in 1876, it is now one of the foremost universities in the United States. In 1902 a large tract of land in the suburbs of the city, comprising 176 acres (56 of which have been deeded to the city for a public park), was presented by several friends as a future site for the university. This noteworthy gift was followed within a few months by a generous contribution from alumni and citizens of Baltimore of \$1,000,000 toward the permanent endowment of the institution. In the summer of 1916 the university began to move to the new Homewood campus. One of the first buildings completed was Gilman Hall (named for the university's first president), which houses the main library and provides seminary and classrooms for non-laboratory subjects. Two others were erected to house the School of Engineering, which had been established in 1912 with funds appropriated by the Maryland Legislature. Since 1916 a number of new buildings have been erected on the Homewood site, including laboratories for physics, chemistry, aeronautics, biology, and sanitary engineering, a dormitory, and a gymnasium.

A most important part of the university is the medical school—opened in 1893—occupying several buildings in the immediate vicinity of Johns Hopkins Hospital. The names of Sir William Osler, Dr. William H. Welch, Dr. William S. Halstead, and Dr. Howard A. Kelly will always be associated with the founding and development of this great school. The School of Hygiene and Public Health, a monument to the great abilities of Doctor Welch, and established by the Rockefeller Foundation, was opened in 1917. During 1924-1925 a department of ophthalmology and an ophthalmological clinic were established in connection with the medical school. This was brought about by the combined efforts of the university authorities and the friends of Dr. William Holland Wilmer, who three years before had established the Wilmer Foundation for the purpose of increasing Dr. Wilmer's facilities for work in ophthalmology.

The university proper now comprises (1) a College of Arts and Sciences for men only, leading to the A.B. degree; (2) a School of Higher Studies for both men and women, open to college graduates and to the best students of the college at the close of their second year, properly qualified persons becoming candidates for the M.A., Ed.M., Ed.D., or the Ph.D. degrees in the faculty of philosophy; (3) a School of Medicine, open to properly qualified men and women and granting the M.D. degree; (4) a School of Engineering for men, with courses leading to the Dr. Eng., M.E., and B.E. degrees; (5) a School of Hygiene and Public Health, open to properly qualified men and women and granting the degrees Dr. P.H., Sc.D. in Hyg., S.M. in Hyg., and M.P.H.; (6) a School of Business for men, leading to the B.S. in business degree; (7) A Summer School whose courses are accepted in partial fulfillment for several degrees; (8) the Walter Hines Page School of International Relations, for persons qualified to carry on research in international law; (9) McCoy College, devoted to the field of adult education, offering degrees of B.S., B.S. in Eng., and B.S. in nursing, and giving courses of current interest which are in addition to degree credit courses; (10) the Institute for Cooperative Research, in which Hopkins scientists carry on fundamental research sponsored by industry and government; (11) the Chesapeake Bay Institute, for study of the physical and chemical-biological behavior of the waters in such estuaries as the Chesapeake Bay; and (12) the Bowman School of Geography, named for Dr. Isaiah Bowman, the distinguished president of Johns Hopkins who retired Jan. 1, 1949.

After World War II the university established the departments of writing, speech, and drama; aeronautics; biophysics; and industrial engineering. Johns Hopkins offers a large number of fellowships and scholarships for the encouragement of promising or needy students. The productive funds of the university approximate \$30,000,000, while the university plant is valued at about half that sum. The university enrolls annually, in all departments, about 7,000 students.

When, in 1876, Daniel Coit Gilman left his post as head of the University of California, and assumed the first presidency of Johns Hopkins University, he gathered to that institution men of great productive and original research, whose scholastic work brought distinction not

only to one of the first great graduate schools of our generation, but which influenced higher education everywhere in the United States. Over half a century of service has multiplied manifold that influence.

JOHNSON, Alvin Saunders, American economist: b. near Homer, Nebr., Dec. 18, 1874. He studied at the University of Nebraska, took the degree of Ph.D. (1902) at Columbia, and was appointed (1901) reader in economics at Bryn Mawr College. He became instructor and adjunct professor of economics (1902-1906) at Columbia, professor of economics, University of Nebraska (1906-1908) and at the University of Texas (1908). He was acting associate professor at the University of Chicago (1909) and associate professor (1910-1911), professor of economics at Leland Stanford, Jr. University (1911-1912), Cornell University (1912-1916), then professor of political science, Stanford University (1916-1918). From 1902 to 1904 he was editor of economics for *New International Encyclopedia*, and editor of political science for the American edition of *Nelson's Encyclopedia*. From 1917 until 1923 he was an editor of the *New Republic*. He then became director of New York's New School for Social Research. In the mid-1930's he established its university in exile—the Graduate Faculty of Political and Social Science—as a refuge for scholars driven from Axis-dominated parts of Europe. From 1927 to 1934 he was an associate editor of the *Encyclopedia of the Social Sciences*. On Sept. 1, 1945 he retired as director of the New School. Of Danish parentage, his father John Johnson Deyrup, on coming to the United States, dropped his unusual family name. An ardent opponent of discrimination against minority groups, Dr. Johnson was chairman of the commission which in 1944 drafted New York State's Ives-Quinn Law to penalize discrimination against Jews and Negroes. His publications include *Rent in Modern Economic Theory* (1903); *Introduction to Economics* (1909); *John Stuyvesant, Ancestor* (1919); *Deliver us from Dogma* (1934); *Spring Storm* (1936); *The Public Library—a People's University* (1938); *The Clock of History* (1946).

JOHNSON, Andrew, 17th president of the United States: b. Raleigh, N. C., Dec. 29, 1808; d. Carter's Station, Tenn., July 31, 1875. Johnson's father died when the boy was 5 years old, and at 10 he was apprenticed to a tailor in his native town. While at work, Johnson gained the first rudiments of an education from a gentleman who often visited the tailor's shop and read aloud to the journeymen and the apprentices from a volume of speeches of eminent British orators. Johnson became interested and received the book as a gift from the owner and learned to read and spell at the same time. In 1824, having completed his apprenticeship, he left Raleigh and went to Laurens Courthouse, S. C. In 1826 he returned to Raleigh, but in September of the same year he left with his mother, for whom he always showed the greatest solicitude, for Greenville, Tenn. The following year he married. Encouraged and aided by his wife, he learned to write and figure. Becoming interested in the problems of his fellow-workers, he was elected alderman (1828), to which office he was twice re-elected. In 1830 he was elected mayor, and held the posi-

tion for three terms. He was also chosen by the County Court as trustee of Rhea Academy, which he held until he entered the State legislature. In 1839 he took an active part in the adoption of a new State constitution which greatly enlarged the freedom of the masses and guaranteed freedom of speech and of the press. The next year he was elected to the State legislature from the counties of Washington and Green where he was especially pronounced in his opposition to the wild schemes of internal improvements then in vogue. Defeated in 1837 for re-election, he was returned in 1839 when the State realized the justice of his position in view of the crisis of 1837. Johnson canvassed eastern Tennessee for the Democratic candidate in 1840, and served as presidential elector-at-large. In the following year he entered the State senate, signaling his advent by the introduction of a judicious measure for internal improvements. In 1843 he was nominated from the first district for Congress, and in December took his seat in the national House of Representatives, which he continued to hold for 10 years. While in the lower house he supported a bill for refunding the fine imposed on General Jackson, the annexation of Texas, the war measures of Polk's administration, and a homestead measure, and opposed all schemes of internal improvement when local in scope and the tariff of 1842. On 2 Aug. 1848, he made a speech setting forth his ideas with regard to the President's veto power. "A veto as exercised by the executive," he declared, "is conservative and enables the people through their tribunician officer, the President, to arrest or suspend for the time being unconstitutional, hasty and improvident legislation until the people, the sovereigns in this country, have time and opportunity to consider its propriety." This utterance was made the theme of an interesting article in the *Democratic Review* in its January issue. Returning to his own State he was chosen for governor in 1853. His inaugural excited much criticism for its ultra radical statements. Two years later he was elected to the United States Senate. As senator he gained special distinction in advocating a homestead measure, only to see his efforts thwarted by President Buchanan.

By this time the slavery problem was the real issue of the nation. Johnson, a Southern Democrat, himself the owner of slaves "acquired by the toil of his hands," mildly upheld slavery, but he did not believe in compromises nor in agitating the slavery controversy, deeming all such discussions as futile. For this reason he disbelieved in the right of petition but supported the Compromise of 1850 because he thought each resolution embodied his views. Nevertheless he did not sanction the Southern attitude of threatening the national government. In the National Democratic Convention at Charleston in 1860, Johnson was a candidate, but in the election he supported the Breckenridge ticket. When he saw the determination of the South to secede, he alone of the Southern members refused "to go with his State" when it withdrew. In 1861 he returned to Tennessee and often at the risk of his life worked in behalf of the Union. In 1862 he became military governor of that part of Tennessee under the control of the Northern forces

and began organizing a Union government. Two years later Johnson was placed on the ticket with Lincoln in order to secure the votes of the border States and the Democrats.

At the sudden death of Lincoln, Johnson undertook the difficult problem of reconstruction left unfinished by his predecessor. Perhaps no man in the Union was so unfitted for this task as the President. Egotistical, tactless, self-confident, fond of making extravagant speeches, radical by nature, and uneducated, Johnson was incapable of grasping the subject. Where Lincoln by his skill could have molded opinion to his view, Johnson aroused a storm of opposition. Yet, to the radical Republicans, Johnson's succession to the mild Lincoln was received with acclaim, for the new incumbent had always displayed himself as a vigorous prosecutor of the recalcitrant Southerners. But no sooner was Johnson in office than he began to change, probably due to Seward's influence and the added responsibility of his new office. In so doing, Johnson soon found himself in opposition to the legislative branch of the government.

Two possible agencies were available to handle the new situation. One, the executive branch, working on the theory that the President as commander-in-chief of the army had the power to establish military rule and withdraw it; the other, the legislative body, on the assumption that restoration was a part of the lawmaking function. Lincoln, in dealing with the parts of Tennessee, Arkansas and Louisiana recovered from the Confederacy, had undertaken the task of reconstruction by issuing his Amnesty Proclamation (8 Dec. 1863), in which he had declared that when a number of citizens of the State equal to one-tenth of the vote of that particular State in 1860 had taken the prescribed presidential oath, they might establish a civil government; but the President had definitely stated that the admission of their senators and representatives to Congress would rest entirely with the legislative branch. Congress showed its opposition to this scheme by hastily passing the Wade-Davis Bill (2 July 1864). Lincoln "pocket vetoed" the bill, but the significance of the struggle demonstrated the determination of Congress to exert its full prerogatives.

Notwithstanding this warning from Congress, Johnson embarked on the same policy at his succession, and on 29 May 1865 issued a similar Amnesty Proclamation, excluding, however, more classes than Lincoln had done. Immediately the work of creating provisional government in the seceded States began, and by October six Southern States had carried out Johnson's ideas by denying the right of secession and abolishing slavery. Three circumstances, however, contributed to destroy the efficacy of his plan; (1) the South adopted harsh "black codes" which, by prescribing severe restrictions covering apprenticeship, vagrancy and employment of the freedmen, led the North to suspect the new establishments of good faith; (2) the selection of old secession leaders as new representatives, Georgia even going so far as to choose Stephens, the ex-Vice-President of the Confederacy, as one of her United States senators; (3) the determination of the radicals in Congress to exclude the Southern leaders and

give the Negro political rights, thereby assuring the supremacy of the Republican Party. Accordingly, a bitter contest began between the president and Congress, led by Thaddeus Stevens and Charles Sumner (qq.v.), over the question of reconstruction. On Dec. 4, 1865, Stevens introduced a resolution creating a Reconstruction Committee composed of nine representatives and six senators. This started the conflict. Johnson replied by vetoing (Feb. 19, 1866) the Freedmen's Bureau Bill intended to aid the Negro; and three days later he delivered a public address to a serenading party in which he charged Stevens, Sumner, and Wendell Phillips with trying to destroy the principles of the government.

From this time on the breach was irreparable. Congress passed over the president's veto the Civil Rights Bill and a new Freedmen's Bureau Bill, and submitted the 14th Amendment to the states. Both parties appealed to the people in the fall election of 1866 for vindication; owing to Johnson's lack of tact and decorum in the campaign, and an unfortunate riot in New Orleans with its accompanying evil effects on opinion in the North as to the South's good intentions, the radicals carried the election. Therefore in 1867 Congress set forth the Congressional plan of reconstruction which meant the disfranchisement of the ex-Confederates and the enfranchisement of the Negro. Johnson faithfully carried out these laws, but the final test came with the removal of Edwin M. Stanton as secretary of war in violation of the Tenure of Office Act (March 2, 1867). This act forbade the president to dismiss any officer without the consent of the Senate. Counseled by his attorney general, Henry Stanbery, that the act was unconstitutional,¹ Johnson dismissed Stanton, now in open accord with the radicals, for whose protection the law had been enacted. In refusing to reinstate Stanton, Johnson broke with Ulysses S. Grant (who had been given the office *ad interim*) over a question of veracity, and thereby gave Congress an opportunity.

In February 1868 the House of Representatives voted to impeach the president. The main charges brought against him were (1) his dismissal of Stanton; (2) his declarations that certain laws were unconstitutional; (3) his speeches in the campaign of 1866; (4) his opposition to Congressional reconstruction. The trial was poorly conducted; the evidence showed much humor; and the fear that Benjamin F. Wade, president of the senate, would succeed, combined with the happy appointment of Gen. John McA. Schofield as secretary of war, turned the tide in favor of the president. Thus on the final vote he was acquitted 35 to 19, the requisite two thirds for conviction not having been obtained.

1868 Johnson was a candidate in the Democratic National Convention, but failed to secure the nomination. He returned to Greenville, and after several unsuccessful attempts was elected senator in 1875. His triumph was short, for he died in July.

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his was confirmed by the Supreme Court in 1926.

JOHNSON, Burges, American author, publisher, and educator: b. Rutland, Vt., Nov. 9, 1877. A graduate of Amherst College (1899), he became president of the publishing house of Thompson, Brown Co. in 1909, and from 1913 to 1919 served as manager of the educational department of E. P. Dutton & Co. He was professor of English at Vassar College (1915–1926) and Syracuse University (1926–1934), and chairman of the English department at Union College from 1935 to 1944. Johnson published many volumes of humorous poems for adults and children; *As Much as I Dare* (1944), an autobiography; *Campus versus Classroom* (1946); and *The Lost Art of Profanity* (1948).

JOHNSON, Bushrod Rust, American Confederate general and educator: b. Belmont County, Ohio, Oct. 7, 1817; d. Brighton, Macoupin County, Ill., Sept. 12, 1880. He graduated from the United States Military Academy in 1840, saw service in the Mexican War in 1846–1847, and in the latter year joined the faculty of the Western Military Institute at Georgetown, Ky., as instructor in philosophy and chemistry. Four years later he was named superintendent of the institution and when, in 1855, it was merged with the University of Nashville, remained as superintendent of the military college there and professor of civil engineering. During the Civil War he joined the Confederate Army and rose to the rank of major general, taking part in many important actions. Later he served as chancellor of the University of Nashville (1870–1874).

JOHNSON, Byron Bancroft (known as BAN JOHNSON), American baseball executive: b. Norwalk, Ohio, Jan. 6, 1864; d. St. Louis, Mo., March 28, 1931. He began his career as a reporter on the Cincinnati *Commercial Gazette* in 1885 and later became sports editor of the paper. In 1893 he was chosen president of the Western League of baseball clubs which, having expanded eastward, became the American League in 1900, with a status equal to that of the National League. Johnson remained president of the new organization until 1927. On his initiative the first of the modern World Series contests was held in 1903 and became a regular post-season feature from 1905.

JOHNSON, Byron Ingemar, Canadian statesman: b. Victoria, British Columbia, Canada, Dec. 10, 1890. After a successful early career in industry and commerce, he was elected to the provincial legislature of British Columbia in 1933, and in 1947 became leader of the Liberal Party in the province. Late in the same year, and again in 1949, he accepted office as premier of British Columbia with a coalition government of Liberals and Conservatives. The Conservative Party left the coalition in 1952, and Premier Johnson's Liberal government was defeated in the general election, after which he retired from the Liberal leadership.

JOHNSON, Cave, American political leader: b. Robertson County, Tenn., Jan. 11, 1793; d. Clarksville, Nov. 23, 1866. After military service under Gen. Andrew Jackson, Johnson practiced law and was elected to Congress in 1829–1837, and as a Jacksonian Democrat in 1839–1845. In the presidential campaign of 1844 he

supported James Knox Polk, who made him postmaster general in his cabinet (1845-1849). During his administration the use of postage stamps was begun in the United States.

JOHNSON, Clifton, American author and illustrator: b. Hadley, Mass., Jan. 25, 1865; d. Jan. 22, 1940. He obtained a secondary education, worked on a farm, was clerk in a bookshop and school teacher, studied in the New York art schools, published in 1892 *The New England Country*, an illustrated study of farm folk, and later was much abroad obtaining notes and pictures for works on foreign life. More recently he visited every nook and corner of the United States in gathering material for an *American Highways and Byways* series in seven volumes. He edited a considerable number of books for school use and illustrated a long list of others by famous authors.

Among the volumes of which he is author and illustrator are *The Country School* (1893); *The Farmer's Boy* (1894); *What They Say in New England* (1896); *Among English Hedgerows* (1899); *Along French Byways* (1900); *The Isle of the Shamrock* (1901); *The Land of Heather* (1903); *Old Time Schools* (1904); *The Picturesque Hudson* (1909); *The Picturesque Saint Lawrence* (1910); *American Highways and Byways*, 7 vols. (1904-1915); *Battle Adventures in the Civil War* (1915); *New England* (1917); *Highways and Byways of Florida* (1918); *What to See in America* (1919); *John Burroughs' Talks* (1922); *Hudson Maxim* (1924). He also edited or illustrated about 50 juveniles and other books.

JOHNSON, Douglas Wilson, American geologist: b. Parkersburg, W. Va., Nov. 30, 1878; d. Sebring, Fla., Feb. 24, 1944. He was educated at Denison University, Ohio, and the University of New Mexico, receiving his Ph.D. at Columbia University in 1903. He taught geology at Massachusetts Institute of Technology (1903-1907); physiography at Harvard (1906-1912); and from 1912 until his death, taught geology at Columbia University, becoming executive officer of his department in 1937. He was the chief of the division of boundary geography, American Commission to Negotiate Peace, Paris (1918-1919). He was also a member of numerous geological societies, and won many medals and honors in his field. His writings include *Topography and Strategy in the War* (1917); *Shore Processes and Shoreland Development* (1919); *Stream Sculpture on the Atlantic Slope* (1931); *The Origin of Submarine Canyons* (1939); and *Origin of the Carolina Bays* (1942).

JOHNSON, Duncan Starr, American botanist: b. Cromwell, Conn., July 21, 1867; d. Baltimore, Md., Feb. 16, 1937. He took the degree of B.S. (1892) at Wesleyan University and Ph.D. at Johns Hopkins (1897), then studied at Munich (1901). He was appointed assistant in botany (1898), associate (1899), associate professor (1901), professor in 1906 and director, botanical garden, 1913, Johns Hopkins University. From 1896-1900 he had charge of botany work and of cryptogamic botany from 1902-1911 at Cold Spring Harbor, L. I. He worked on botanical exploration and investigation (1903, 1906, 1910, 1919) at Jamaica, West Indies, and was special investigator at Carnegie Institution, Wash-

ington (1912 and 1915). He wrote *The Relation of Plants to Tide Levels* (1915) in collaboration with H. H. York.

JOHNSON, Eastman, American painter: b. Lowell, Me., July 29, 1824; d. New York City, April 5, 1906. He began his art studies at the Royal Academy, Düsseldorf (1849-1851), and developed a distinct talent for genre. He afterward traveled in France, Italy and Holland, and spent four years at The Hague. Among his pictures painted in Europe are the *Savoyard* and the *Card Players*, in which he showed the influence of the Dutch school. He returned to the United States in 1856 and devoted himself for some years to the study of rustic and Negro life and he painted some of the most popular pictures ever produced by a native painter; many of them have been engraved and chromolithographed. The best known are *Old Kentucky Home*; *Husking Bee*; and the *Boyhood of Abraham Lincoln*. He also produced excellent likenesses of Grover Cleveland, Benjamin Harrison, John D. Rockefeller, William H. Vanderbilt, Cornelius Vanderbilt, Mrs. August Belmont and Mrs. Alexander Hamilton.

JOHNSON, Edward, American colonial historian: b. Herne Hill, Kent, England, about 1599; d. Woburn, Mass., April 23, 1672. He emigrated to America probably with Governor Winthrop in 1630. In 1632 he was engaged in trade at Merrimack, and was on the committee appointed to superintend the foundation of a new town and church at the place now called Woburn. In 1643 he was elected by the town of Woburn a member of the legislature of Massachusetts, in which he continued to sit till 1671, with the exception of 1648. In 1655 he was chosen speaker of the house. He was recorder of Woburn from the time of its incorporation till his death. In 1665 he was one of the members deputed to hold conference with the commissioners sent from England by Charles II. He wrote a *History of New England from the English Planting in 1628 till 1652, or Wonder-Working Providence of Zion's Saviour* (1654).

JOHNSON, Edward, American soldier: b. Chesterfield County, Va., April 16, 1816; d. Richmond, Va., Feb. 22, 1873. After being graduated from the United States Military Academy in 1837, he fought in the Florida wars, for his services in which he was brevetted captain, and subsequently in the Mexican War, being brevetted major for his conduct at Chapultepec. He received his captain's commission in 1851, but in 1861 resigned to enter the army of the Confederate States as colonel of the 12th Georgia Volunteers. He was promoted brigadier-general in 1862 and major-general in 1863. At Gettysburg he commanded a division. He was captured with his entire force at Spottsylvania (May 12, 1864) and retaken in the following December. Subsequent to the war he was a farmer in Chesterfield County, Va.

JOHNSON, Edward, American tenor and general manager of the Metropolitan Opera Association (1935-1950): b. Guelph, Ontario, Aug. 22, 1881. After a musical education at home and at the University of Toronto, he went to New York City and in 1908 appeared in the tenor role in Oskar Straus' operetta, *Walzertraum*. In 1912 he made his European operatic debut in

adua, Italy, after living alternately in Europe and the United States, and followed this with a long season engagement at La Scala, Milan, singing leading tenor roles. He joined the Chicago Opera Company in 1919, and in 1922 joined the Metropolitan Opera Company, with which he has been associated since. After 13 years of leading tenor romantic parts, he became general manager of the Metropolitan Opera Association. He served as manager from 1935 to 1950, when he was succeeded by Rudolf Bing (q.v.).

JOHNSON, Emily Pauline, Canadian poetess: b. Chiefwood, Ontario, 1862; d. Vancouver, B. C., March 7, 1913; the daughter of George Johnson, head chief of the Mohawk Indians, and of his English wife. Her poems on Indian subjects are full of dramatic force and intensity. Her works include *The White Wampum* (1894); *Canadian Born* (1903); and *Flint and Feathers* (1912).

JOHNSON, Emory Richard, American economist: b. Waupun, Wis., March 22, 1864; d. Philadelphia, Pa., Mar. 6, 1950. He studied at University of Wisconsin (1888) and University of Pennsylvania (1893), taking the degree of Sc.D. (1913). He was instructor of economics at Haverford College (1893-1896), professor of transportation and commerce at University of Pennsylvania (1896), and dean of the Wharton School of Finance and Commerce (1919-1933). He served on the United States Industrial Commission, and valued railway property for the U.S. Census Bureau (1904-1905), and as expert on traffic on the National Waterways Commission (1909). In 1911 he furnished a report on Panama Canal traffic, etc., for President Taft, and arbitrated the dispute (1907) between the South-Pacific Company and the Order of Railroad Telegraphers. His important works include: *Inland Waterways: Their Relation to Transportation* (1893); *American Railway Transportation* (1903); *Elements of Transportation* (1909); *Railroad Traffic and Rates* (1911); *Panama Canal Traffic and Tolls* (1912); *The Panama Canal and Commerce* (1916); *Principles of Railroad Transportation* (1916), and *Principles of Ocean Transportation* (1917); *Interpretative Essays on China and England* (1927).

JOHNSON, Franklin, American Baptist clergyman and educator: b. Frankfort, Ohio, Nov. 2, 1836; d. Oct. 7, 1916. He was graduated from Colgate Seminary in 1861; was ordained a Baptist minister in 1862, and was pastor at Bay City, Mich., 1861-1863; Lambertville, N. J., 1864-1866; Passaic, N. J., 1866-1872; Newark, N. J., 1872-1874; and Cambridge, Mass., 1874-1888. He studied at German universities and traveled in Europe, Egypt and Palestine in 1868-1869. He was made D.D. by the University of Jena, Germany, in 1869, and LL.D. by Ottawa University, Ottawa, Kans., 1898. After his pastorate in Cambridge he traveled in Greece and spent the winter of 1888-1889 in Athens. He was president of Ottawa University, 1890-1892. The remainder of his public life was in connection with the University of Chicago, where he was assistant professor of church history and homiletics 1892-1894; associate professor 1894-1895; professor 1895-1908; and professor emeritus after 1908. Thus his public life was divided into two almost equal parts, the first in the pastorate and the second in university administration and teaching.

While laboring as pastor at Cambridge he was also editor of *The Watchman*, 1876-1877. The following are his principal published writings: *The Gospel According to Matthew*, with notes (1873); *Moses and Israel* (1874); *Heroes and Judges from the Lawgiver to the King* (1875); *True Womanhood; Hints on the Formation of Womanly Character* (1884); and *Romance in Song*, a translation of Heine's *Lyrical Interlude* (1884); *The New Psychic Studies in their Relation to Christian Thought* (1886); *The Quotations of the New Testament from the Old Considered in the Light of General Literature* (1896); *The Home Missionaries*, a poem (1899); *Have We the Likeness of Christ?* (1902); *The Christian's Relation to Evolution* (1904).

JOHNSON, Helen Kendrick, American author: b. Hamilton, N. Y., Jan. 4, 1844; d. Jan. 3, 1917. She was the daughter of A. C. Kendrick (q.v.) and was married to Rossiter Johnson (q.v.) in 1869. Besides editing several compilations of verse she published *The Roddy Books*, popular juvenile tales (1874-1876); *Our Familiar Songs* (1881); *Raleigh Westgate* (1889); *Woman and the Republic* (1897). She was an active member of the Association Opposed to the Extension of Suffrage to Women and wrote much on woman suffrage.

JOHNSON, Herman Merrill, American educator: b. Butternuts, N. Y., Nov. 15, 1815; d. Carlisle, Pa., April 5, 1868. He was graduated (1839) at Wesleyan University, Connecticut, and appointed professor of ancient languages at St. Charles College, Missouri. He accepted a similar position (1842) at Augusta College, Kentucky, which he left (1844) when called to the chair of ancient languages and literature at Ohio Wesleyan University. In 1850 he became professor of philosophy and English literature at Dickinson College and was called to the chair of moral science in 1860, accepting in the same year the presidency, which he held until his death. Ohio Wesleyan University conferred on him (1852) the degree of D.D. He edited *Orientalia Antiquaria Herodoti*, published an edition of the *Clio* of Herodotus (1850) and was a regular contributor to the *Methodist Quarterly Review* and the religious periodicals.

JOHNSON, Herrick, American clergyman and educator: b. Caughnewaga, N. Y., Sept. 22, 1832; d. Nov. 20, 1913. He was graduated (1857) at Hamilton College and (1860) Auburn Theological Seminary, and became associate pastor (1860-1862) at the First Presbyterian Church, Troy, N. Y., then pastor (1862-1867) at the Third Presbyterian Church, Pittsburgh, Pa. He was pastor (1868-1873) of the First Presbyterian Church, Philadelphia, and was then made professor of homiletics and pastoral theology at Auburn Theological Seminary (1874-1880), becoming next pastor at the Fourth Presbyterian Church, Chicago, until 1883. From 1880-1906 he was teaching at McCormick Theological Seminary, Chicago. He was president of the Presbyterian Board of Ministerial Education (1869-1873) and of the Presbyterian Board of Aid (1883-1903), and moderator of the Springfield, Ill., General Assembly (1882). He wrote *Christianity's Challenge* (1880); *Plain Talks about the Theatre* (1882); *Revivals, Their Place and Power* (1883); *Presbyterian Bulwarks* (1887); *Pres-*

byterian Book of Forms (Philadelphia 1889).

JOHNSON, Herschel Vespasian, American jurist and political leader: b. Burke County, Ga., Sept. 18, 1812; d. Jefferson County, Aug. 16, 1880. He graduated from the University of Georgia in 1834, studied law, and in 1849 was appointed a judge of the Georgia Superior Court. In 1853 he was elected governor of Georgia, and held that office for two terms until 1857. He was the nominee of the Democratic National Convention (1860) for vice president on the ticket with Stephen A. Douglas. After Lincoln's election he opposed secession, but ultimately supported the Confederacy and in 1862 entered the Confederate Senate. He was elected to the United States Senate in 1866 but was refused his seat because of his part in the rebellion. Again appointed to the Georgia Superior Court, he served on the bench from 1873 until his death.

JOHNSON, Hiram Warren, American lawyer and politician: b. Sacramento, Calif., Sept. 2, 1866; d. Bethesda, Md., Aug. 6, 1945. He attended the University of California, and was admitted to the bar in 1888. In San Francisco, in 1908, he took part in proceedings involving the bribery of public officials by utilities corporations, and secured the conviction of Abe Ruef after Francis J. Heney, the chief prosecutor, had been shot in the courtroom. He was elected governor by the Progressive Republicans in 1910, and re-elected in 1914 to complete the enactment of a reform program, including regulation of railroads, conservation and labor measures. In 1913 he signed the controversial Webb Anti-Alien Bill excluding Asiatics from land ownership. Meanwhile, in 1912, he had been the vice presidential nominee of the Progressive Party, of which he was a founder, with Theodore Roosevelt as candidate for president. In his second term as governor he resigned (1917) to enter the United States Senate, where at his death he was serving his fifth term. A leading isolationist, he joined with Senators William E. Borah and Henry Cabot Lodge to defeat President Woodrow Wilson on the League of Nations issue, and later opposed the adherence of the United States to the United Nations Charter.

JOHNSON, Hugh Samuel, United States army officer, lawyer, and administrator: b. Fort Scott, Kansas, Aug. 5, 1882; d. Washington, D.C., April 15, 1942. He graduated from the United States Military Academy in 1903, and in 1916 accompanied General John J. Pershing's punitive expedition into Mexico with the rank of judge advocate. In World War I he originated the plan for the draft, helped to write the Selective Service Act, and was executive in charge of its operation (1917-1918). Promoted brigadier general in the latter year, he was also made chief of the Purchase and Supply Bureau of the General Staff and a member of the War Industries Board. He resigned from the army in 1919, and remained in private business until he was appointed administrator of the National Recovery Administration (1933-1934), which he described in *The Blue Eagle from Egg to Earth* (1935). He also served briefly as Works Progress Administration director for New York City (1935). From 1934 he was a columnist for the Scripps-Howard newspapers and a radio commentator.

JOHNSON, Jack (full name JOHN ARTHUR JOHNSON), American Negro pugilist: b. Galveston, Texas, March 31, 1878; d. Raleigh, N. C., June 10, 1946. Defeating Tommy Burns at Sydney, Australia, Dec. 26, 1908, in 14 rounds, he became the first American Negro to hold the world heavyweight boxing championship. He defended his title by knocking out a former champion, James J. Jeffries, at Reno, Nev., July 4, 1910, in the 15th round, but lost the championship to Jess Willard in 26 rounds at Havana, Cuba, April 5, 1915.

JOHNSON, James Weldon, American Negro author: b. Jacksonville, Fla., June 17, 1871; d. near Wiscasset, Me., June 26, 1938. He graduated from the Atlanta University (1894) and was the first Negro to be admitted to the Florida bar. He practiced at Jacksonville (1897-1901) before moving to New York, where in collaboration with his brother, John Rosamond Johnson, he wrote for the light opera stage and composed several popular songs. He was appointed United States consul (1906) at Puerto Cabello, Venezuela, and afterwards was consul (1909-1912) at Corinto, Nicaragua. A founder of the National Association for the Advancement of Colored People, he was its field secretary from 1916 to 1920 and executive secretary from 1920 to 1930. Johnson was awarded the Spingarn Medal in 1925 for his services to Negroes, and from 1930 served as professor of creative literature at Fisk University. His novel, *The Autobiography of an Ex-Colored Man*, first published anonymously (1912), was reissued in his own name in 1927. He was also the author of *Fifty Years and Other Poems* (1917); *God's Trombones* (1927); *Black Manhattan* (1930); *Along This Way*, an autobiography (1933); *Negro Americans, What Now?* (1934); and editor of *The Book of American Negro Poetry* (1921); and *The Book of American Negro Spirituals*, with J. R. Johnson (2 vols., 1925-1926). See also NEGRO IN AMERICA.

JOHNSON, Sir John, American Loyalist officer: b. near Johnstown, N. Y., Nov. 5, 1742; d. Montreal, Canada, Jan. 4, 1830. An officer in the New York militia from 1760, he was knighted in 1765, and in 1774 succeeded to the baronetcy and most of the estates of his father, Sir William Johnson (q.v.), in the Mohawk Valley. At the outbreak of the American Revolution he evaded General Philip John Schuyler's forces, and escaped with a group of other Loyalists to Canada, there raising the Queen's Own American Regiment (popularly known as the Royal Greens), of which he was made colonel. Serving with Barry St. Leger, he took part in the siege of Fort Stanwix (renamed Fort Schuyler), N. Y., in August 1777, and commanded a detachment at Oriskany, where an American relief force under Gen. Nicholas Herkimer was ambushed. During 1778-1780, Johnson organized and led a series of damaging Indian raids into the Mohawk Valley, despite a decisive defeat by General John Sullivan at Newtown (now Elmira), Aug. 29, 1779. In England in 1781, he was made a colonel in the Regular Army and commissioned superintendent general of the Six Nations Indians and those of Quebec Province. His New York estates were confiscated in 1779, but he was given money and grants of land in Canada, where he lived from the close of the American Revolution.

JOHNSON, John Butler, American civil engineer and educator: b. Marlboro, Ohio, June 1, 1850; d. Madison, Wis., June 23, 1902. He graduated as a civil engineer (1878) at the University of Michigan and was appointed assistant engineer in the United States Lake and Mississippi River surveys. In 1883 he accepted the chair of civil engineering at Washington University, Saint Louis, Mo., in which vocation he became noted among educators. He was chosen dean of the College of Mechanics and Engineering (1898), at the University of Wisconsin, where he taught till his death. He wrote *Materials of Construction*, 1st ed. (1897); *Engineering Contracts and Specifications*, 3d ed. (1904); *Theory and Practice of Surveying*, 8th ed. (1904). In 1884 he directed the *Index to current literature in the Journal of the Association of Engineering Societies*, and (1891) he United States Department of Agriculture placed him in charge of the extensive tests of American timbers.

JOHNSON, Joseph French, American economist: b. Hardwick, Mass., Aug. 24, 1853; d. Newfoundland, N. J., Jan. 22, 1925. Graduated from Harvard in 1878, he studied political economy and history for a year in Germany, and joined the staff of the *Springfield Republican*, then the *Chicago Tribune* as financial editor. He founded the *Spokane, Wash., Spokesman* (1890), selling out in 1893 to become professor at Wharton School of Commerce, University of Pennsylvania (1893-1901). From 1899-1903 he was lecturer on finance at Columbia University. From 1901, he was professor of political economy, and from 1903 dean of the School of Commerce, Accounts and Finance at New York University. Hobart College, Geneva, N. Y., conferred an LL.D. degree (1915). He was a member of the Commission on New Sources of Revenue for New York City (1912) and of the commission to revise the banking laws of New York State (1913). He wrote *Syllabus of Money and Banking* (1899); *Money and Currency* (1905); *Report on the Canadian Banking System for the National Monetary Commission* (1910); *We and Our Work* (1922); *Organized Business Knowledge* (1923).

JOHNSON, Louis Arthur, American government official: b. Roanoke, Va., Jan. 10, 1891. After receiving a law degree from the University of Virginia in 1912, he entered law practice in Clarksburg, W. Va., and in 1917 was elected to the state House of Representatives for one term, during which he was majority floor leader. He served in the army in World War I, after which, in addition to returning to his law practice, he figured prominently in activities of the American Legion, of which he was national commander 1932, and of the Democratic Party. From June 28, 1937, to July 25, 1940, he served as assistant secretary of war and was given much credit for the degree of military preparedness achieved before the Pearl Harbor attack. Later he was President Roosevelt's personal representative to India during most of 1942. He was appointed secretary of defense on March 3, 1949, and among other proposals advocated the effective unification of the armed forces and the building of long-range bombers. He left this post on Sept. 19, 1950, and resumed law practice with the West Virginia firm of Steptoe and Johnson.

JOHNSON, Manuel John, English astronomer: b. Macao, China, May 23, 1805; d. Feb. 28, 1859. After attending Addiscombe College, England, he served in the artillery at Saint Helena. He founded an observatory on that island, and compiled *A Catalogue of 606 Principal Fixed Stars in the Southern Hemisphere*, which was printed in 1835 by the East India Company. In 1839 he was appointed to take charge of the Radcliffe Observatory, where he conducted extensive research on the redetermination of Groombridge's circumpolar stars. The results of his work were published in 18 volumes of the *Radcliffe Observations*. Using the best scientific equipment then available, he observed 26 important double stars, measured the chief stars of the Pleiades, and carried on many other observations. He was a fellow of the Royal Society, and president of the Royal Astronomical Society in 1857-1858.

JOHNSON, Owen, American author: b. New York, Aug. 27, 1878; d. Vineyard Haven, Mass., Jan. 27, 1952. He was educated at the Lawrenceville School in New Jersey and Yale (B.A. 1901). His stories of school life, *The Eternal Boy* (1909), *The Varmint* (1910), and successive books, are generally acknowledged to be his best work. *Stover at Yale* (1911), a college story, frank in its criticisms of certain phases of life at Yale, aroused a storm of controversy. Among his other works are *Arrows of the Almighty* (1901); *The Comet* (play, 1908); *The Humming Bird* (1910); *The Tennessee Shad* (1911); *A Comedy for Wives* (play, 1911); *The Salamander* (1913); *The Wasted Generation* (1921); *Skippy Bedelle* (1923); *The Coming of the Amazons* (1931).

JOHNSON, Reverdy, American jurist: b. Annapolis, Md., May 21, 1796; d. there, Feb. 10, 1876. He was educated at Saint John's College in that city, and at 17 began to study law. In 1815 he was admitted to the bar, in 1817 removed to Baltimore and subsequently devoted his time mainly to the arguing of cases before the United States Supreme Court. He reported seven volumes of the decisions of the Maryland Court of Appeals. In 1821 he was elected a state senator, and at the expiration of his term in 1826 was re-elected for a second term. In 1845 he was chosen a United States senator, resigning in 1849 on being appointed attorney general of the United States. On the succession of Millard Fillmore, after the death of President Zachary Taylor, he resigned that office, and resumed the practice of law in Baltimore. He was United States senator 1863-1868, and succeeding Charles Francis Adams as minister to England in 1868 negotiated the treaty for the adjustment of the *Alabama* claims, afterward rejected by the Senate. He was recalled in 1869. He prepared an argument in defense of Mrs. Mary E. Surratt, accused of complicity in the assassination of Lincoln, but it was refused a hearing by the military court.

JOHNSON, Richard Mentor, American statesman and soldier: b. Floyd's Station, near Louisville, Ky., Oct. 17, 1780; d. Frankfort, Ky., Nov. 19, 1850. He was educated at Transylvania University, and subsequently studied law and practiced with success. He commenced his public career as a member of the Kentucky

legislature, to which he was elected at the age of 24, and in 1807 was elected to Congress, and remained a member of the House until 1819. He was a firm supporter of the administration of Madison, and upon the commencement of the War of 1812, raised a body of Kentucky mounted riflemen, whom he commanded, on the Canadian frontier. The decisive charge of his mounted volunteers contributed greatly to the brilliant victory gained over the British and Indians at the Battle of the Thames, Oct. 5, 1813, and it was by his hand that the Indian leader Tecumseh is commonly supposed to have fallen. In 1819 he was elected to fill a vacancy in the United States Senate, of which he continued a member until 1829, when he was again returned to the House of Representatives. He remained a member until his election by the Senate in March, 1837, as vice president of the United States, no candidate having gained a majority in the electoral college. He discharged the duties of presiding officer of the Senate for four years, and in the presidential election of 1840 was an unsuccessful candidate of the Democratic Party for vice president. He thenceforth lived chiefly in retirement. He was, however, serving a term in the state legislature at the time of his death. In Congress he was active in securing pension legislation for soldiers of the American Revolution and of the War of 1812. He was the author of the law abolishing imprisonment for debt in Kentucky.

JOHNSON, Richard W., American military officer: b. near Smithland, Ky., Feb. 7, 1827; d. St. Paul, Minn., April 21, 1897. He was graduated at West Point in 1849, was employed chiefly on frontier service until 1861, when he became colonel of the 3d Kentucky Cavalry. On October 11 he was appointed brigadier general of volunteers, and later commanded a division at Murfreesboro, and with his division fought under Thomas at Chickamauga (Sept. 19-21, 1863). He commanded the 12th division of the Army of the Cumberland in the invasion of Georgia and a division of cavalry at Nashville, was brevetted brigadier general, United States Army, for his services (March 13, 1865), and, having been mustered out of the volunteer service, became provost marshal of the military division of the Tennessee. In 1867 he resigned from the service with rank of major general, changed by act of Congress (1875) to brigadier.

Among his published works are: *A Memoir of Maj.-Gen. George H. Thomas* (1881); *A Soldier's Reminiscences in Peace and War* (1886).

JOHNSON, Robert Underwood, American editor: b. Washington, D.C., Jan. 12, 1853; d. Oct. 14, 1937. He was educated at Earlham College, Indiana, and joined the staff of the *Century Magazine* (then known as *Scribner's Monthly*) in 1873. He was associate editor from 1881 to 1909, and in the latter year, on the death of Richard Watson Gilder, succeeded to the editorial chair, which he occupied until May 1913. He early became noted for his services in behalf of international copyright, as secretary of the American Copyright League doing much to secure the passage of the law of 1891, for which he was decorated by the French and Italian governments. With Clarence Clough Buel he had charge of editing the *Century War Series*, afterward published as *Battles and Leaders of the Civil War* (1887-1888). He induced General

Grant to write his *Memoirs*, half of which appeared in the series. With John Muir, he set on foot the movement resulting in the creation of the Yosemite National Park. He was the originator of the American Poets Ambulances in Italy in 1917, and was active in many national movements, notably the forest conservation movement. He became permanent secretary of the American Academy of Arts and Letters. From 1920 to 1921 he was ambassador to Italy. His writings include *The Winter Hour and Other Poems* (1891) and *Songs of Liberty and Other Poems* (1897); *Collected Poems, 1881-1919* (1923); *Remembered Yesterdays* (1923); *Poems of Fifty Years* (1931); and *Aftermath* (1933).

JOHNSON, Robert Ward, American lawyer and senator: b. Scott County, Ky., July 22, 1814; d. July 26, 1879. After receiving academic training at St. Joseph's College, Bardstown, Ky., he studied law and in 1835 opened an office in Little Rock, Ark. In 1840 he was appointed prosecuting attorney for the Little Rock district, becoming, *ex officio*, attorney general for the state. Elected to Congress as a Democrat in 1846, he was twice re-elected. Gov. J. S. Conway in 1853 appointed him to fill out the vacancy of a resigned senator; he was elected by the legislature and re-elected for the following term, serving until March 3, 1861. In Congress he opposed the Wilmot Proviso, Clay's 1850 compromise plan, admission of California, and the compromise with Texas. He supported the fugitive slave law and Douglas' Kansas-Nebraska bill. He obtained large land grants for Arkansas railways. He did not seek re-election in 1860, but the next year stumped the state for secession and was a delegate to the Confederate Provisional Congress. Later elected to the Confederate Senate, he served to the end of the Civil War. After surrendering his estate to his creditors he went to Washington to practice law. Seeking a seat in the Senate in 1878, he was defeated. The "Johnson family," including his brother Richard H. Johnson, their brother-in-law Ambrose H. Sevier (the state's first senator), and other relatives were credited with ruling Arkansas from 1836 to 1860. The "family" returned to power in 1862, but the end of the war saw its eclipse. R. W. Johnson was regarded as a man of highest integrity who ably served his state except, perhaps, in sponsoring a bill to relieve it of the obligation to improve its swamp lands.

JOHNSON, Rossiter, American author and editor: b. Rochester, N. Y., Jan. 27, 1840; d. Oct. 3, 1931. He was graduated from the University of Rochester in 1863 and was associate editor of the *Rochester Democrat* 1864-1868. From 1869 to 1872 he edited the *Concord (N. H.) Statesman*; and in 1873-1877 was associated with George Ripley and Charles A. Dana in editing the *American Cyclopaedia*, while in 1879-1880 he aided Sydney Howard Gay in his *History of the United States*. In 1883-1902 he was editor of the *Annual Cyclopaedia*, and in 1900-1904 was editor of the *Universal Cyclopaedia*. He edited the series of *Little Classics*, 18 vols. (1875-1880); *Liber Scriptorum* (1893, 1921), and was editor in chief of the *World's Great Books*, 40 vols. (1898-1901); *Great Events by Famous Historians*, 20 vols. (1905), and of *The Authors' Digest*, 20 vols. (1908). In 1906, in collaboration with Dora Knowlton Ranous, he edited *The*

Literature of Italy, 16 vols. (1907). His original works include *Idler and Poet*, verse (1883); *History of the War of Secession* (1888); *Morning Lights and Evening Shadows*, poems (1902, 918); *The Alphabet of Rhetoric* (1903); *The Story of the Constitution of the United States* (1906); and *Captain John Smith* (1915).

JOHNSON, Samuel, American clergyman and educator, first president of King's College (now Columbia University); b. Guilford, Conn., Oct. 14, 1696; d. Stratford, Conn., Jan. 6, 1772. He was graduated from the Collegiate School which later became Yale College and in 1716 became a tutor there. In 1718 he resigned to receive ordination as a Congregational minister, and settled at West Haven. He relinquished his charge in 1722 to join the Church of England and soon after sailed for England, where he received Episcopal ordination in 1723. Shortly after he returned to America, bearing a commission as missionary of the Society for the Propagation of the Gospel in Foreign Parts, and settled in Stratford, Conn., as rector of an Episcopal church there. In 1743 he received the degree of D.D. from the University of Oxford. In 1746 he published *Ethices Elementa, or the First Principles of Moral Philosophy*, and in 1752 Benjamin Franklin reprinted it along with a new section on logic and metaphysics. In 1749 Johnson was offered the presidency of the University of Pennsylvania, but declined it. In 1754 he assumed presidency of the newly founded King's College in New York, on all the plans for which he had been consulted. In 1763 he resigned and returned to Stratford, where he resumed his parochial duties until his death. He was twice married to widows who both died of smallpox. Johnson carried on long controversies upholding apostolic succession and divine sovereignty.

Consult F. E. Beardsley, *Life and Correspondence of Samuel Johnson* (1874); L. W. Riley, *American Philosophy: The Early Schools* (1907); Herbert and Carol Schneider, *Samuel Johnson, President of King's College: His Career and Writings*, 4 vols. (1929).

JOHNSON, Samuel, American preacher and author; b. Salem, Mass., Oct. 10, 1822; d. North Andover, Feb. 19, 1882. He was graduated from Harvard in 1842, and from the Harvard Divinity School in 1846. He joined no religious denomination, and except for one year with a Unitarian church in Dorchester was not settled as a minister until 1853, when he established in Lynn, Mass., an independent society, in which he remained until 1870, then withdrew to complete studies of many years, the results of which appeared later in his publications. With Samuel Longfellow (q.v.) he compiled a *Book of Hymns* (1846) and *Hymns of the Spirit* (1864). Some of his own inspiring hymns in these books are now found in the collections of various denominations. His critical study *The Worship of Jesus* (1868), written in accordance with his views of universal religion, is described by O. B. Frothingham as "perhaps the most penetrating and uplifting essay on that subject in any language." He printed notable essays on religion and reforms in *The Radical* and other periodicals. His great work *Oriental Religions*, including *India* (1872), *China* (1877) and *Persia* (1885)—the last containing an introduction and a critical estimate of Johnson by O. B. Frothingham—represents what Johnson himself calls his "purely humanistic point of

view." His philosophy was highly transcendental; but being versed in many languages, he was acquainted with all schools, and with the results of history, literature, science, and criticism in every department. Prof. E. J. Eitel, the German Orientalist, wrote of "Johnson's pre-eminent merits as the historian of universal religion," and F. Max Müller paid him tribute as the finder of "a religion behind all religions."

Consult Longfellow, Samuel, *Lectures, Essays and Sermons by Samuel Johnson, with a Memoir* (Boston 1883). This volume contains some of Johnson's best papers, including brilliant lectures on *Switzerland and Florence*, the outgrowth of searching observations in Europe, *Equal Opportunity for Women*, *Labor Parties and Labor Reform*, and an essay on *Transcendentalism*.

JOHNSON, Samuel, English man of letters; b. Lichfield, Sept. 18, (N.S.) 1709; d. London, Dec. 13, 1784. He was the son of Michael Johnson, a learned bookseller, and his wife, Sarah Ford. The father was a Jacobitical, High Church Tory, somewhat given to melancholy, and not methodical in habits. The son took after him in these particulars. Of the mother little is known. They had another son, Nathaniel, born in 1712, who died at 25. The elder Johnson was a man



Samuel Johnson

of some local importance, church warden, sheriff and bailiff, but before his death in 1731 his business had declined until he was nearly bankrupt.

Samuel is said to have been a very precocious child, but his mental forwardness could not compensate for his bodily defects. His face was deeply marked by scrofula and one eye was permanently injured, Queen Anne's "touch" profiting him nothing, but leaving in his loyal memory a vague picture of a "lady in diamonds and a long black hood." He was first taught by a dame, later at the Lichfield school. Being lazy and lumbering he early exerted his powers of command upon his fellows by making three of his mates carry him to school. In 1726, he was sent to school at Stourbridge for a year. Then he remained for two years at home, where he did little except to read widely among his father's books. His talents impressed a neighboring gentleman, who offered to send him to Oxford. Johnson entered Pembroke College as a commoner on Oct. 31, 1728, remained in continuous residence a little over a year, and returned for brief periods, until the autumn of 1731. He was wretchedly poor during his college residence, and he left without a degree because of his father's business troubles. The stories of his haranguing

students in a tattered gown and flinging away in a passion a pair of shoes left at his door are well known. His unusual learning seems to have impressed the college authorities from the beginning, and his Latin translation of Alexander Pope's *Messiah*, printed in 1731 in a "miscellany," pleased that famous poet. But Johnson was too indolent and hypochondriacal to profit greatly from the college routine, and the cutting short of his academic career is thus not specially to be regretted.

After his father's death he found himself obliged to earn his living by teaching school and acting as chaplain to a baronet, who did not treat him kindly. He soon gave up the place and removed to Birmingham, where he lived with an old schoolmate named Hector and became a bookseller's hack. The only fairly important work of these years was his translation in 1735 of the French version of *Voyage to Abyssinia*, a travel journal written by the Portuguese missionary Jerônimo Lobo. Johnson is said to have walked to Oxford to get a copy of the French version, which never yet has found its way back to the shelves of the Pembroke College library.

In 1735 he made a marriage which has afforded posterity a great deal of amusement. Among his acquaintances in Birmingham was a mercer named Henry Porter, who died in 1734, leaving a widow and three children. In a little less than a year Johnson married the widow, who was about 20 years his senior. Johnson declared that it was a love match on both sides, and his own constancy to her throughout her life and his devotion to her memory prove that for himself at least he did not exaggerate. Despite his uncouth appearance, his eccentricities, his visionary and morbid qualities which made some people think him insane, the widow is said to have recognized that he was at bottom one of the most sensible of men. According to David Garrick he showed no sense of the beautiful in choosing a fat, painted and affected old woman. She showed no prudence in placing her small fortune under the control of a poor young man with apparently slim prospects. Yet as Johnson was nearsighted and could see but little of what shocked others in his wife—if indeed the report of Garrick was not purposely exaggerated—and as he undoubtedly made her a good husband, there seems to be little reason to waste sympathy on either party to the match.

After his marriage Johnson set up a boarding school at Edial near Lichfield. His peculiarities naturally prevented him from succeeding. He may have had only three pupils; but one of these, David Garrick, combines with the master himself to make the short-lived school a very famous one. Early in 1737 the two set out together to seek their fortunes in London. Mrs. Johnson being left in Lichfield. They had little money, and Johnson's chief baggage seems to have consisted of part of his tragedy *Irene* and a few letters of introduction.

The literary adventurer spent his first months in London seeking employment from the booksellers. He lived prudently and seems to have been aided by Henry Hervey, a son of the earl of Bristol. In the summer he returned to Lichfield and finished *Irene*; in the autumn he removed permanently to London with his wife.

Thomas Babington Macaulay, in an excellent paragraph of his admirable essay on Johnson, describes the desperate state of authors at the time.

In 1736 the day of the patron was drawing to a close, but, although Pope had succeeded in making the public his patron, it was too early for other men to hope to rival him. Writers who under Queen Anne might have received money and political positions were now rather happy when they were sure of their meals. Booksellers kept them under by sweatshop methods. Johnson took his place in the toiling ranks, but, because of his pride, suffered more than most of his brother hacks. His never polished manners deteriorated in cellar restaurants; he became a sloven in his dress and, as all the world knows, he never got over his acquired aversion to clean linen. Much of the brutality of manners for which he was afterward reproached is accounted for by the rough treatment to which he was subjected at this period of his career.

The details which James Boswell was able to gather with regard to the early life of his hero are not very ample. After *Irene* was refused by a manager, Johnson secured employment with the printer Edward Cave in 1738, revising for *The Gentleman's Magazine* the parliamentary debates, which could be published only as if they had just occurred in the senate of Liliput. From July 1741 to March 1744 he wrote the debates, making use of notes taken by others. They were often regarded as genuine, few readers knowing that the writer, to use his own words, had taken care that the Whig dogs should not have the best of it.

Meanwhile in 1738 Johnson had published through Robert Dodsley his first important piece of work, the satire entitled *London* in which he imitated Juvenal's third satire as Nicolas Boileau-Despréaux and John Oldham had done before him. Being a strong, manly spirit and having his own sufferings and indignities to spur him on, he produced a poem which seemed so good to his contemporaries that the first edition was exhausted in a week. Pope inquired who the author was and endeavored to have him elected to the mastership of a school. The project failed and Johnson remained in London gathering the knowledge of writers and life that stood him in such good stead in his later criticism.

This knowledge was first displayed on a considerable scale in his *Life of Richard Savage*, which appeared in February 1744. Johnson, who had been much thrown with Savage, took that curious personage far too seriously; but his small biography is not only valuable as an excellent description of the literary Bohemianism of the day, but is important as one of the first books of its kind to abandon a stiff and formal or a stately tone, and to present a life simply and vividly. When we praise Boswell as a biographer, we ought not to forget that his great subject gave him instructions which the Scotsman bettered.

Little is heard of Johnson for the next two or three years, but his fame must have grown, for in 1747 he was employed by a sort of booksellers' syndicate to prepare an English dictionary, this project superseding that of an edition of Shakespeare, which he contemplated in 1745. The dictionary was to be in two folio volumes for which he was to receive £1,575. The entire cost of preparing copy fell on him, however, hence the bargain was not a profitable one to the needy scholar except insofar as it enhanced his reputation. He issued a plan of his work dedicated to Lord Chesterfield; did a amount of reading to secure quotations; em-

employed six amanuenses to copy such citations as he had marked; supplied etymologies and definitions; and finally on April 15, 1755 stood forth to the world as "the great lexicographer." All things considered, it was a monument of scholarship despite its compiler's ignorance of the history of the language. Of its definitions, excellent as a rule, the humorous ones, such as "oats is a grain used for horses in England but for people in Scotland," are mainly remembered; but it would not be forgotten that Johnson not only surpassed his predecessors, but also laid the foundations on which subsequent lexicographers have reared more imposing structures. The *Dictionary* is also remembered as the occasion of Johnson's writing one of the most famous of all letters—that to Lord Chesterfield, who had neglected him for years but on the eve of the publication of the great work wrote flattering notices of it in the hope that it might be dedicated to him. Johnson's letter of Feb. 7, 1755 is remarkable not merely for the dignity with which he refused to be encumbered with help after he had safely reached the shore unassisted, but also for the touching pathos with which he referred to his disillusionment and his loneliness. His "Tetty," or whose sake he had labored so heroically, was not by his side to share his rewards. She had died in March 1752.

The completion of the *Dictionary* in eight years would have been sufficient work and glory for a more than ordinary man of letters; but between 1747 and 1755 Johnson added greatly to his reputation in other ways. In January 1749 the second of his celebrated satires appeared, *The Vanity of Human Wishes*, based upon the tenth satire of Juvenal. It is better than the *London*, indeed it is one of the best sententious pieces of moralizing in verse to be found in English literature. It brought Johnson only 15 guineas. He received nearly £300 in benefits and copyright for his tragedy *Irene* which Garrick produced in February 1749 at Drury Lane Theatre. Even Garrick's acting and Johnson's appearance in a box clad in a gold-laced hat and a gold-laced scarlet waistcoat could not save so undramatic a performance. It ran nine nights; the person who has read it nine times has probably never existed.

More important than his reappearance as a poet was his assumption of the role of periodical essayist. His famous semiweekly imitation of *The Spectator*, entitled *The Rambler*, which ran from March 20, 1750 to March 14, 1752, was not so successful as a journal, but when the numbers were gathered into volumes, which Johnson most carefully revised, the work became very popular. That it was the equal of *The Spectator*, the novelist Samuel Richardson, who wrote "only really popular number, and other contemporaries declared, nobody now believes. That should have held its own against so formidable a rival, when so many other attempts had failed, is a clear proof that it had genuine merits. It is certainly established Johnson's fame as a moralist, and if we omit the papers in which he clumsily attempted to be entertaining as well as some of his specifically critical essays, we can still find its pages more sound thought and feeling with regard to human life in its lights and shadows than can be discovered in the pages of most of the essayists we actually read. Johnson's contemporaries were also greatly impressed by his elaborate, balanced, Latinistic prose style. The

effects of this both upon the prose of his period and upon his own reputation were injurious. Even to this day most people think of Dr. Johnson (he was not yet M.A., that degree coming to him from Oxford, partly in reward for *The Rambler*, in time to be printed on the title page of the *Dictionary*) as a pompous affected writer who never used a short English word, if he could find a long Latin one to put in its place. *The Rambler* and other works produced when he was about 40 give a basis of truth to this opinion; but we should remember that as he grew older and after he had had much practice as a racy talker, his style became simpler and stronger.

The last number of *The Rambler* was written when Mrs. Johnson was dying. He mourned her loss sincerely through 32 years of widowhood. He did not see her painted cheeks or hear her affected giggles; he saw only an ideal being whose death left him desolate. No one can read the numerous references to her in his *Prayers and Meditations* (1785) without feeling a profound respect for the blinded man.

During the years between 1752 and 1759, that is, between *The Rambler* and *Rasselas, Prince of Abyssinia*, Johnson not only published the *Dictionary*, wrote essays for *The Adventurer* (1753-1754), a publication of his friend John Hawkesworth, and edited and contributed to the *Literary Magazine, or Universal Review* (1756-1758), but also issued proposals for the edition of Shakespeare he had long contemplated (1756), and began a new series of essays, *The Idler*. He lazily put off the Shakespeare until a taunt by the satirist, Charles Churchill, in *The Ghost*, to the effect that he was cheating the subscribers who had paid in their money forced him to go to work on the promised edition, which finally appeared in 1765. Naturally, it was not a monument of scholarship, but it contained some sound criticism, and its preface has long been regarded as one of the most sensible introductions to the reading of Shakespeare that we possess. *The Idler* ran in weekly numbers from April 15, 1758 to April 5, 1760 on Saturdays in John Newbery's *Universal Chronicle*. It was collected in two volumes in 1761 and in part deserved its title, for it was distinctly less ponderous than *The Rambler*.

It is at this period that the Johnson who has impressed the world's imagination as a man begins clearly to emerge. He was still the old impecunious Johnson, for the year after the *Dictionary* appeared he was twice arrested for debt. But he was slowly improving his finances, and he was gathering around him friends who were better than riches. He had long delighted in tavern clubs where he met queer characters, such as the forger, George Psalmanazer. In 1749 he organized a club of his own at the King's Head, which included Allen Bathurst, Hawkesworth, and his future biographer, Sir John Hawkins. Then he formed friendships—destined to become more famous because they figured so frequently in Boswell—with the accomplished Grecian Bennet Langton, with the gay, fashionable Topham Beauclerk, with Sir Joshua Reynolds and Dr. Charles Burney, and, a trifle later, with Oliver Goldsmith and Edmund Burke. A humbler circle of friends is still more picturesque—to wit, the unfortunates he received into his gloomy house after his wife died—blind Miss Anna Williams, good talker but peevish. Robert Levett, the self-educated physician of the poor, to whose memory

Johnson consecrated one of the most pathetic of English elegies—and later, Mrs. Desmoulins and Miss Carmichael. These dependents, as was natural, quarreled among themselves and harassed their benefactor. Another inmate of his house, of whom we frequently hear, was his black servant, Francis Barber.

In January 1759, Johnson's old mother died at Lichfield. The story that he wrote *Rasselas, Prince of Abyssinia*, in a week, to pay her funeral expenses is, as is usual, not altogether accurate. It seems to have been begun before her death, mainly in order to defray the cost of a visit to her. When published, it became the most popular of his writings, and it still has readers and ranks as a classic, although a ponderous one. It has little narrative interest, lacks the atmosphere of the East, presents us with personages rather than with persons, and makes them talk in an impossibly magniloquent style; yet, when all deductions are made, it remains not only a strong attack upon the fashionable, shallow optimism of the day which Johnson detested, but also one of the most manly utterances on the evils of life and the courage needed to combat them that has ever been heard from an English moralist. In literary ability Johnson was inferior to Voltaire, whose witty *Candide*, by a curious coincidence, attacked the optimists almost contemporaneously with *Rasselas*, but in moral force the advantage was entirely on Johnson's side.

Three years after *Rasselas* began its long life in numerous editions and translations, Johnson's own life was almost entirely changed. In July 1762, despite his famous uncomplimentary definition of "pension," he accepted one of £300 per annum. He was independent enough to be able to afford being slightly inconsistent, and he did not promise to support the Tory government in return for its favors. Pensioned or unpensioned he would have taken his reactionary position on American affairs, whether or not he would have written his unfortunate *Taxation no Tyranny* (1775), just as naturally as he took part in exposing the Cock Lane Ghost (1762).

His pension gave Johnson full opportunity to indulge his constitutional sluggishness. He could afford to write only now and then, to lie in bed until the afternoon, to spend the evening at a tavern laying down the law to his hearers. Thanks partly to his genius for conversation and friendship, partly to his rooted dislike of solitude, he grew to be more and more of a clubman, as the word was then understood, and it was in this capacity rather than as a productive man of letters that he became the literary dictator of his time. As Macaulay remarks, between 1765 and 1775, Johnson published only what it would scarcely have taken him a week to write if he had been working at his old rate of speed. Instead of writing he talked, and when he came forward again as an author, the vigorous English of his conversation got the better of the stately Latin of his pen. About the beginning of 1764 he became the chief figure of the famous club which for nearly 20 years held weekly or fortnightly meetings at the Turk's Head, Soho. Besides Johnson, its chief members were Reynolds, Burke, Goldsmith, Edward Gibbon, Garrick, Sir William Jones, and, last but not least, James Boswell, whom Johnson caused to be elected early in 1773. Langton, Beauclerk, Bishop Thomas Percy, Charles J. Fox, and others nearly or quite as distinguished, were also members. It is per-

haps not so surprising that these men admitted Boswell at Johnson's solicitation as that Johnson should have tolerated the bibulous, gossiping little man, who hailed from a part of Great Britain for which the sturdy English moralist had always professed a great dislike. The matter can no more be settled by explanation than Johnson's infatuation with Mrs. Porter. Boswell, with all his faults, must have been amusing, and his devotion to his master doubtless touched that essentially kind, though rough, personage. At any rate posterity, which owes so much to Boswell, has no occasion to criticize harshly either of the apparently ill-assorted friends. It is better to remember that, although several other members of the club wrote books that have stood the wear and tear of time more successfully than most of Johnson's writings have done—Burke, Goldsmith and Gibbon, for example, and Boswell himself—the fact that Johnson dominated such men speaks volumes for his essential greatness as a man. Mere dictatorial rudeness and other qualities natural to an *Ursa Major*, as the poet Thomas Gray used to denominate him, are not sufficient to explain the phenomenon.

Boswell is not the only person who lives in literature because he was once associated with Johnson. Henry Thrale, the brewer, and his bright, gay wife are mainly remembered, because, after 1764, Johnson passed much of his time at the brewery in Southwark and at their villa at Streatham, leaving his new house in Fleet Street to be occupied in the main by the queer recipients of his bounty already mentioned. He now became somewhat more polished in his manners and enjoyed the society of such interesting women as Fanny Burney, Hannah More, and Mrs. Elizabeth Carter (qq.v.). The literary lion in such company presents a picture very different from that of the adventurer wandering the streets with Richard Savage. Boswell gives so many interesting pictures of the later Johnson that it is difficult to select the most striking. The interview with George III was a great event in the life of so loyal a subject. It took place in February 1767. His softening down in the presence of that amusing radical, John Wilkes, showed him in a still happier light. His excursions, whether with Boswell or the Thrales (Henry and Hester, qq.v.), to the Hebrides (1773), to Wales (1774) and to France (1775)—to say nothing of visits to his old friends at Oxford and elsewhere—had their share with time in mellowing his character and widening his outlook upon men and institutions. *A Journey to the Western Isles of Scotland*, the account he gave of his visit to Scotland with Boswell, upon which the latter wrote a most sprightly book, would have given far more offense to the Scots if it had been written two decades earlier. It was published in 1775, the year Oxford, following Dublin by 10 years, made him a doctor, and is a dignified and worthy book; but it is probably chiefly remembered because in it Johnson severely handled James Macpherson's Ossian fame, a fact which led to Macpherson's challenging him, and to Johnson's purchasing stout stick, which he did not have occasion to use on his challenger.

Two years later—Easter Eve 1777—a committee representing many of the best London booksellers called upon Johnson to ask him to furnish introductions to a proposed series of works of the English poets since the Restoration. The project pleased him, he named a compen-

on far too low (200 guineas, subsequently increased by £200 by the booksellers), shook off its lethargy, and by 1781 had finished the most famous of his books, the *Lives of the English Poets*, which appeared (collected) in 10 small volumes (1779, 1781). This latest work was in terary merit by far his best. He was in sympathy with most of the poets he had to treat, he had amassed through reading and gossip much information about them, he had mellowed with age, the common sense and sound morality, which are the best features of his criticism, had full chance to display themselves, and his style was no longer ponderous and unidiomatic. The life of John Milton was marred by prejudice, religious and political, as well as by lack of appreciation of such a poem as *Lycidas*, the life of Gray was unsympathetic and inadequate; but the chief lives, such as those of Abraham Cowley, Joseph Addison, John Dryden, Jonathan Swift, Pope, and Savage, left little to be desired, and many of the minor sketches were intelligent, to the point, and, not infrequently, humorous in a somewhat grim fashion. In short, the book well deserved the place it has secured as an 18th century classic.

After its publication Johnson aged rapidly, and what with the loss of friends (like Thrale in 1781, and Robert Levett in 1782), and with his dread of death and his increasing infirmities of gout and asthma, the last three years of his life were very painful. A break with Mrs. Thrale in consequence of her attachment to the Italian musician, Gabriel Piozzi, whom she married in 1784, led to his going back to his house in Fleet Street, to recriminations and bad temper trying both to him and to her, and finally to his last letter to her, which is pathetic in the extreme. In the summer of 1783 he had a paralytic stroke; recovering, he tried, more or less in vain, to forget his miseries in his clubs, old and new. He visited Oxford with Boswell; plans were formed to get him to Italy, but failed; and in November 1784 he entered upon his last illness. Physicians and friends served him with the utmost kindness, his fears of death subsided, and after bravely undergoing operations and giving many proofs of his unfeigned piety, he died peacefully on Dec. 13, 1784. Seven days later he was buried in Westminster Abbey.

Johnson's massive figure and disfigured face, his swaying backward and forward, his muttering prayers to himself, his touching all the posts he passed, his bad manners at table, his 25 and less cups of tea, his slovenliness, his nearsightedness—all his moral and physical peculiarities—are known wherever Boswell is read. We do not frequently recall his generosity in making advances after a quarrel, his love of children, his rivalry toward women, his loyalty to his friends, his charity to the poor, his hatred of tyranny in every form. We remember his prejudices and superstitions without recalling the fact that he inherited them in large measure. By insisting on his eccentricities we tend to overlook his splendid triumph over bodily infirmities and social drawbacks that would have quelled a less resolute spirit. Johnson at bottom was of heroic mold—courageous, tender, large-minded, sound-hearted. His peculiarities make him picturesque; study of his character and his career reveals him to have been truly great as a man. As a man of letters he is also great, through his influence upon the literature of his period, through his services to

lexicography, through the solid intelligence and morality of his essays and *Rasselas*, through the sanity of his best criticism, and through the vitality of his biographical sketches. But as a writer of books that are judged solely on their intrinsic merits of style and substance Johnson can scarcely be termed great. His complete works have been but rarely reprinted in the past 80 years and are little read. As an essayist and letter writer, and poet, he is not in the highest class; *Rasselas* is found to be heavy reading by most people; the *Lives of the Poets* are perused in their entirety by but few. Boswell does much more to preserve Johnson's fame than the great Doctor's own writings; but the value of these is easily underestimated, and Boswell's biography would not have been such a great book if Johnson had not been such a great man. See also BOSWELL, JAMES; LIFE OF SAMUEL JOHNSON, LL.D.; LIVES OF THE POETS; RAMBLER, THE; RASSELAS; VANITY OF HUMAN WISHES, THE.

Bibliography.—Good editions of Boswell's *Life of Samuel Johnson* are by G. Birkbeck Hill, 6 vols. (Oxford 1887) and by Roger Ingpen, 2 vols. (New York 1909; new ed. Boston 1925). Other editions of importance are those by Edmund Malone (6th ed. of the work, 1811), John W. Croker (11th ed., 1831; revised, 1835), Percy Fitzgerald (1874), Rev. Alexander Napier (1884). Other sources of information are the biography by Sir John Hawkins (1787), Arthur Murphy's *Essay on the Life and Genius*, etc. (1792), Mrs. Gabriel Piozzi's *Anecdotes of the Late Samuel Johnson* (1786; new ed. 1925), and *The Autobiography, Letters, and Literary Remains of Mrs. Piozzi*, edited by A. Howard (1861), and, in general, books dealing with the chief men of the time, Goldsmith, Reynolds, and Burke.

Consult also the short biography by Leslie Stephen (London 1878), and Col. F. Grant's *Life and Writings of Samuel Johnson in Great Writers Series* (London 1887); Raleigh, W. A., *Six Essays on Johnson* (Oxford 1910); Tinker, C. B., *Dr. Johnson and Fanny Burney* (New York 1912); Lynd, R., *Dr. Johnson and his Company* (1928). The chief critical essays are by Matthew Arnold, Augustine Birrell, Carlyle, Macaulay and Leslie Stephen.

Consult also Birkbeck Hill's *Dr. Johnson, His Friends, and His Critics* (London 1878), and *Johnsonian Miscellanies* (New York 1897), and Whitwell Elwin's *Some Eighteenth Century Men of Letters*, 2 vols. (1902). Johnson's works were edited by Hawkins in 1787 in 11 volumes (to which two volumes edited by Stockdale were added later). Several editions by Arthur Murphy followed (1792, 1796, etc.), then two by Alexander Chalmers (1810, 1816), and finally in 1825 came the best, the Oxford edition in 11 volumes, edited by F. P. Walsby and containing the Parliamentary Debates. Johnson's *Letters*, save those included in Boswell's, were edited by Birkbeck Hill in 1892 (2 vols.). Reprints of separate works have been very numerous, of late chiefly for school use. The best editions of *Rasselas* are those by Birkbeck Hill (1887), and R. W. Chapman (1927). The *Lives of the Poets* were edited by Peter Cunningham in 1854, by Mrs. Napier in 1890, and by Arthur Waugh in 1896; but these have been superseded by the monumental edition of Birkbeck Hill, 3 vols. (1905). Matthew Arnold edited six of the lives in 1878.

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JOHNSON, Samuel William, American chemist: b. Kingsboro, N. Y., July 3, 1830; d. July 21, 1909. He studied at Yale College and the universities at Leipzig and Munich. In 1856 he became professor of analytical chemistry in the Yale Scientific School, taught agricultural chemistry there 1857-1875, and from 1875 to 1896 was professor of theoretical and agricultural chemistry, becoming in 1896 professor emeritus. He was director of the Connecticut Agricultural Experiment Station from 1877 to 1899. In 1856 he was made chemist to the Connecticut State Agricultural Society, in which capacity he issued an important series of papers on commercial fertilizers and allied subjects. He was elected to the National Academy of Sciences in 1866. He wrote

Essays on Peat Muck and Commerical Manures (1859); *How Crops Feed* (1870); *Peat and Its Uses* (1866); *How Crops Grow* (1868), and edited Fresenius' *Quantitative Chemical Analysis* (1864, 1875, 1883).

JOHNSON, Thomas Cary, American theologian: b. Fishbok Hill, Va., July 19, 1859; d. Feb. 15, 1936. He was graduated at Hampden-Sidney College (1882) and took diplomas in Latin, Greek and mathematics (1883-1884) at the University of Virginia, then graduating in theology (1887) at Union Theological Seminary, Virginia. He was appointed professor of Old and New Testament exegesis at Austin (Tex.) Theological School (1889-1890), and was ordained to the ministry in 1890, becoming pastor-elect of the Third Church, Louisville, Ky. (1890-1901). He was made a member of the faculty of Union Theological Seminary, Richmond, Va., filling chairs of English Bible and pastoral theology (1891-1892), ecclesiastical history and polity (1892-1913), systematic theology since 1913. He wrote *History of the Southern Presbyterian Church* (1894); *John Calvin and the Geneva Reformation* (1900); *Life and Letters of Robert Lewis Dabney* (1903); *The Life and Letters of Benjamin Morgan Palmer* (1906); *Virginia Presbyterianism and Religious Liberty* (1907); *Baptism in the Apostolic Age* (1912); *Some Modern Isms* (1919); *God's Answer to Evolution* (1924).

JOHNSON, Tom Loftin, American capitalist and municipal reformer: b. Blue Spring, near Georgetown, Ky., July 18, 1854; d. Cleveland, Ohio, April 10, 1911. He was clerk in a street railway office (1869-1875), and invented several street railway devices, including the "trilby" rail and a fare box; became owner of a street railway in Indianapolis and later acquired large interests in Cleveland, Detroit and Brooklyn; he was also interested in iron manufacture in Cleveland. He disposed of his railway properties and became prominent in politics as a member of the Democratic Party, and known as an advocate of the single tax and public ownership of public utilities. His plans for municipal ownership attracted nation-wide attention. Though opposed to the free coinage of silver, he supported Bryan in 1896 and 1900, and the state convention which he controlled unanimously endorsed the Kansas City platform. He was a member of Congress, 1891-1895. In 1901 he was elected mayor of Cleveland, and was re-elected 1903, 1905 and 1907. He transformed the city government by introducing several radical reforms. He was an advocate of three-cent street railway fares. He left public life in 1910.

JOHNSON, Virginia Wales, American novelist: b. Brooklyn, N. Y., Dec. 28, 1849; d. Jan. 16, 1916. After 1875 she lived in Florence, Italy. Her publications, mainly for young folk, include the "Kettle Club Series" (1860-1870); the "Doll's Club Series" (1871); *Joseph the Jew* (1874); *A Sack of Gold* (1874); *The Catskill Fairies* (1876); *The Calderwood Secret* (1875); *A Foreign Marriage* (1880); *The Neptune Vase*, her finest work (1881); *The Fainalls of Tipton* (1884); *Tulip Place* (1886); *The House of the Musician* (1887); *A World's Shrine* (1902); *Summer Days at Vallombrosa* (1911); *Two Quaint Republics, Andorra and San Marino*

(1913); and other fiction and several descriptive works, such as *Genoa, the Superb* (1892); *The Lily of the Arno* (1891); *Many Years of a Florentine Balcony* (1911).

JOHNSON, Sir William, British superintendent-general of Indian affairs in North America: b. Smithtown, County Meath, Ireland, 1715; d. near Johnstown, N. Y., July 11, 1774. His uncle, Sir Peter Warren, offered his nephew the management of his entire property in New York, if the latter would undertake its improvement and settlement. Johnson accepted the offer and in 1738 established himself upon a tract of land on the south side of the Mohawk, about 25 miles from Schenectady, which Sir Peter had called Warrensburgh. In addition to the settling and improving of the country, he embarked in trade with the Indians, whom he always treated with perfect honesty and justice. He became a master of their language, speaking many of their dialects as fluently as they did themselves and was thoroughly acquainted with their beliefs and customs. He was adopted by the Mohawks as one of their own tribe, chosen a sachem and named Waraghiyaghey, "he who has charge of affairs." In 1744 he was appointed colonel of the Six Nations, in 1746 commissioner of New York for Indian affairs. In 1750 he became a member of the provincial council. In 1754 he attended as one of the delegates from New York the congress of Albany and also the great council held with the Indians on that occasion, at which they strongly urged his reappointment as their superintendent. At the council of Alexandria, April 14, 1755, he was sent for by Braddock and commissioned by him "sole superintendent of the affairs of the Six United Nations, their allies and dependents." He was also, pursuant to the determination of that council, created a major-general and commander-in-chief of the provincial forces destined for the expedition against Crown Point. At the head of these forces, in September 1755, he defeated Gen. Ludwig Dieskau at Lake George. This victory saved the colony from the French and Johnson received the thanks of Parliament for his victory, was voted £5,000 and on Nov. 27, 1755, created a baronet of Great Britain. On his arrival at Lac Saint Sacrement a few days before this battle, he gave to it the name of Lake George, "not only in honor of his majesty, but to assert his undoubted dominion here." In March 1756 he received from George II a commission as "colonel, agent, and sole superintendent of the affairs of the Six Nations, and other northern Indians." He held this office for the rest of his life. In 1758 he was present with James Abercrombie at Ticonderoga. General Prideaux led the expedition against Fort Niagara in 1759. Johnson was second in command and upon the death of Prideaux, before that fort, succeeded to the command in chief. With upward of 1,000 Indians allies he continued the siege with great vigor and cut to pieces the French army. He led the same Indian allies the following year in the Canadian expedition of Amherst and was present at the capitulation of Montreal and the surrender of Canada to the British arms in 1760. The war was now at an end and the king granted to Sir William for his services a tract of about 100,000 acres of land, north of the Mohawk. In 1762, the country being at peace and the Indians perfectly contented, Sir William erected John-

on Hall, a large wooden edifice still standing. The village of Johnstown, with stores, an inn, a courthouse and an Episcopal church, was soon laid out. In 1772 it became the shire town of Tryon County. Johnson lived in the style of an old English baron of former days and exercised liberal hospitality. In 1768 he concluded the treaty of Fort Stanwix. He was commissioned major general in 1772. He wrote *The Language, Customs and Manners of the Six Nations*, in *Proceedings of the American Philosophical Society of Philadelphia* (1772), and his letters have great historical value.

Consult *Calendar of the Sir William Johnson Manuscripts*, compiled by R. E. Day (Albany 1909); Buell, A. C., *Sir William Johnson* (New York 1903); Pound, A., and Day, R. E., *Johnson of the Mohawks* (New York 1930); Stone, W. L., *The Life and Times of Sir William Johnson, Bart.*, 2 vols. (Albany 1865).

JOHNSON, William, American jurist: b. Charleston, S. C., Dec. 27, 1771; d. Brooklyn, N. Y., Aug. 4, 1834. He was graduated (1790) from Princeton, then entered the law office of the celebrated Charles Cotesworth Pinckney and was admitted (1793) to the bar. He represented Charleston in the lower house of the state legislature from 1794 to 1798, when he was appointed judge of the court of common pleas. In 1804 Thomas Jefferson appointed him associate justice of the Supreme Court of the United States. He was an adherent to the Jefferson political principles but was firm in all matters respecting his reading of the law. This brought him into collision with the president in the celebrated Embargo act, which he declared illegal. He belonged to the minority who strongly opposed nullification in South Carolina. He found opposition to him so strong that he had to leave the state for a time, going (1833) to western Pennsylvania, then to Brooklyn, N. Y., where he died. He wrote *Sketches of the Life and Correspondence of Nathaniel Greene* (1822), and in 1826 he published a *Eulogy of Thomas Jefferson*.

JOHNSON, William Samuel, American jurist and educator: b. Stratford, Conn., Oct. 7, 1727; d. there, Nov. 14, 1819. He was the son of the Rev. Samuel Johnson (q.v.), first president of King's College (Columbia University), New York. He was graduated from Yale in 1744, was admitted to the bar, practiced in the New York and Connecticut courts, in 1761 and 1765 represented Stratford in the Connecticut general assembly, or lower house, and in the latter year was a Connecticut delegate to the Stamp Act Congress at New York. In 1766 he became a member of the governor's council or upper house of the Connecticut legislature, in 1766-1771 was in England as special agent for the colony in defense of its title to land obtained from the Mohican Indians, in 1771 re-entered the council, and for a time in 1772 was a judge of the Superior Court of the colony. After Lexington, he was a member of a committee sent to Gen. Thomas Gage on the unsuccessful mission of inquiring into possible means of peace. Opposed to the Revolution, he remained in private life during its progress, but in 1784-1787 was a member of the Continental Congress, in 1787-1789 sat in the Connecticut assembly, in 1787-1800 was president of Columbia College, and from 1789 to 1791, when he resigned, was the first United States senator from Connecticut. He resigned the college presidency in 1800 because of failing

health and retired to Stratford. Oxford conferred on him the degree of D.C.L. in 1766. He made the acquaintance of Dr. Samuel Johnson during his stay in London, and later corresponded with him. His letters to the governors of Connecticut during his residence in Great Britain have been published in the *Collections of the Massachusetts Historical Society*, 5th series, vol. 9 (Boston 1885).

JOHNSON, William Woolsey, American mathematician: b. Owego, N. Y., June 23, 1841; d. Baltimore, Md., May 14, 1927. He was graduated from Yale, 1862; M.A. 1868, and served on the staff of the United States Nautical Almanac office (1862-1864), at Cambridge, Mass. He was appointed assistant professor of mathematics at the United States Naval Academy, Newport, R. I., and at Annapolis (1865-1870), and professor of mathematics at Kenyon College, Ohio (1870-1872), and St. John's College, Maryland (1872-1881), returning to the United States Naval Academy in 1881. He was commissioned lieutenant and made professor of mathematics in the navy in 1913. He retired in 1921 with the rank of commodore. He published *An Elementary Treatise on the Integral Calculus Founded on the Method of Rates or Fluxions* (1874-1876); *Curve Tracing in Cartesian Coordinates* (1884); *The Theory of Errors and Method of Least Squares* (1890); *A Treatise of Ordinary and Partial Differential Equations* (1889); *An Elementary Treatise on Theoretical Mechanics* (1900-1901); *Treatise on Differential Calculus* (1904); *Differential Equations* (1906); monographs on mathematics; *Treatise on Integral Calculus* (1907); *An Elementary Treatise on the Differential Calculus* (1908).

JOHNSON CITY, village, New York, in Broome County; altitude 846 feet; on state highway 17C; 3 miles west of Binghamton; on the Erie, and the Delaware, Lackawanna and Western railroads. It is served by the Tri-Cities Airport at Endicott, and has good bus connections. Johnson City has close interrelation with the neighboring cities of Endicott and Binghamton. The Endicott-Johnson Corporation has shoe factories in each of the three places. The village is named for George F. Johnson, born in Massachusetts in 1857, who began working in a boot factory at the age of thirteen. In 1881 he was employed in a shoe factory in Binghamton and later induced his employer to build a new factory which, with the assistance of Henry B. Endicott, developed into the present factory in Johnson City. This manufactory operates, with its employees, a profit-sharing and home-owning program. Johnson City's industries are lumber and coal-loading equipment; the General Electric Company has a plant here. It also manufactures candy; photographic paper; felt articles; wooden heels and lasts, and foundry castings. It has a Bible seminary and training school, and a school for nurses. Pop. (1940) 18,039; (1950) 19,563.

JOHNSON CITY, city, Tennessee, in Washington County; altitude 1,717 feet; 106 miles north of Knoxville; on the Southern; Clinchfield; East Tennessee and Western North Carolina railroads. It shares a tri-city airport with Bristol and Kingsport. It is in a farming and lumbering area, is one of the nation's largest hardwood flooring centers, has iron foundries, and manu-

factures of textiles and textile mill supplies, gloves, pants, hosiery, furniture, brick, flour, and dairy products. Here are East Tennessee State College (coeducational) and Mountain Home Veterans Administration Hospital. Nearby is Milligan College (q.v.). First settled in 1777 and called Blue Plum; later called Haynesville; chartered 1869; rechartered 1885; and named for Henry Johnson, its first mayor. Pop. (1940) 25,332; (1950) 27,778.

JOHNSON'S ISLAND, Ohio, an island located at the mouth of Sandusky Bay, overlooking Lake Erie, and about a mile long and a mile and a half wide. It was used during the Civil War as a prison for captured Confederates; almost exclusively for officers.

JOHNSTON, Albert Sidney, American army officer: b. Washington, Mason County, Ky., Feb. 2, 1803; d. Shiloh, Miss., April 6, 1862. General Johnston had but a brief career in the Confederate Army and the first part of that career was one of great disaster and consequently of severe criticism; but he fell "on the field of glory" at Shiloh, and not a few endorse the opinion of President Davis that he was the greatest general whom the war produced. Descended from a long line of illustrious ancestors, he obtained his literary education at Transylvania University and was graduated at West Point, June 30, 1826, being number eight in a brilliant class of which S. P. Heintzelman was a member. He was brevetted second lieutenant in the 2d Infantry, transferred to the 6th Infantry in 1827, was regimental adjutant from 1828 to 1832, aide to General Atkinson a year, and acting assistant adjutant general to Illinois volunteers during the Black Hawk War—in all of which positions he showed the qualities of an accomplished soldier. He resigned his commission in the United States Army, May 31, 1834, having determined to settle in Texas and cast in his fortunes with the "Lone Star" Republic.

The battle of San Jacinto was fought April 21, 1836, and soon after Johnston arrived in Texas and enlisted as a private soldier in the Texan army. His merit soon brought him promotion and he was made adjutant general of the Army of Texas and not long after brigadier general and chief commander of the army in the place of Gen. Felix Huston. As a result of jealousy growing out of this promotion there was an unfortunate duel between Huston and Johnston, in which the latter was wounded. He continued in command of the Texan army until 1838, when he was made secretary of war for the Republic of Texas. In 1839 he led an expedition against the hostile Cherokee Indians and in a battle on the Neches defeated and routed them with great slaughter. He used all of his abilities and wide influence in bringing about the annexation of Texas to the United States, and promptly enlisted when the Mexican War broke out, being colonel of the First Texas Rifle Volunteers. He was distinguished in various battles, especially at Monterey, where he had three horses shot from under him and was highly complimented by General Butler, on whose staff he was serving.

On Oct. 31, 1849 he was appointed by President Taylor paymaster in the United States Army, with the rank of major and when the 2d Cavalry Regiment was formed he was appointed. March 3, 1855, its colonel on the recommendation

of his old classmate and lifelong friend, Jefferson Davis, who was at that time the able and efficient secretary of war. In 1858 he was put in command of an expedition to Utah to force the Mormons to submit to the laws of the United States government and overcame great difficulties and showed such ability and tact in the delicate mission that he was made brevet brigadier general. When the Civil War broke out General Johnston was in command of the Department of the Pacific, but he very promptly resigned his commission and with a small party made his way across the plains, passing through New Orleans and reached Richmond on September 2, where he had a cordial reception and was made a full general and assigned to the command of the Department of Kentucky, whither he went at once, beginning the able and efficient discharge of his duties there.

It could not be published at the time that he had a force barely 20,000 to defend that long line against overwhelming numbers of the enemy, and he was severely criticized in the newspapers for not being more aggressive and when Forts Henry and Donelson fell and he was compelled to fall back and abandon to the enemy so large a section of Confederate territory that abuse and severest criticism were heaped upon him, he was denounced as incompetent and his removal from command was demanded. President Davis calmly said: "If Albert Sidney Johnston is not a general, then I have none to put in his place." He wrote his old friend a noble letter, and Johnston replied in the same spirit, concluding with this sentiment: "The test of merit in my profession, with the people, is success. *It is a hard rule, but I think it right.* If I join this corps to the forces of General Beauregard (I confess a hazardous experiment), then those who are now exclaiming against me will be without an argument." He alluded to his plan of uniting with Beauregard to strike Grant before Buell and Mitchel could join him, and in pursuance of which plan he marched from Corinth, Miss., on April 3, intending to attack Grant at Pittsburgh Landing, or Shiloh Church, 20 miles off on April 4. There was delay on the part of some of the troops so that the attack could not be made until the morning of the 6th, but with his 40,000 men Johnston attacked Grant's 50,000 with such impetuosity, skill and dash that the Federals were driven back at every point, were huddled together at Pittsburgh Landing and there seemed to be lacking at 2:30 p.m. only one more vigorous advance to annihilate Grant's army. But just at this moment the great commander who had just remarked to one of his staff: "The victory is ours. We shall soon water our horses in the Tennessee River," was struck by a Minié ball in his leg, and bled to death in 15 minutes. In the confusion which followed, the advance was not made. Beauregard (who had been ill in his ambulance all day and did not appreciate the real situation) ordered the Confederate lines to fall back. Buell and Mitchel came up that night with 55,000 fresh troops, and thus the fruits of Johnston's great victory were lost and the next day the Confederates were compelled to fall back to Corinth.

No nobler eulogy could be pronounced on Albert Sidney Johnston than that of President Davis in a special message to the Confederate Congress, in which he said: "Without doing injustice to the living, it may safely be said that

our loss is irreparable. Among the shining hosts of the great and good who now cluster around the banner of our country, there exists no purer spirit, no more heroic soul than that of the illustrious man whose death I join you in lamenting. In his death he has illustrated the character for which, through life, he was conspicuous—that of singleness of purpose and devotion to duty with his whole energies. Bent on obtaining the victory which he deemed essential to his country's cause, he rode on to the accomplishment of his object, forgetful of self, while his very life blood was fast ebbing away. His last breath cheered his comrades on to victory. The last sound he heard was their shout of victory. His last thought was his country, and long and deeply did his country mourn its loss."

It is scarcely extravagant to say that had Albert Sidney Johnston lived the victory at Shiloh would have been complete, the whole character of the campaign in the West would have been changed, and with Lee in Virginia and Johnston in the West, the result of the war might have been different. The monument to Albert Sidney Johnston in New Orleans is one of the most beautiful in the country; he is buried in Austin, the capital of his adopted state.

Consult the biography by his son, W. P. Johnston, *Life of Albert Sidney Johnston* (New York 1878).

J. WM. JONES,
Author and Lecturer.

JOHNSTON, Alexander, American historian: b. Brooklyn, N. Y., April 29, 1849; d. Princeton, N. J., July 20, 1889. He was graduated from Rutgers College, New Jersey, in 1870, studied law, and was admitted to the bar in 1876. He did not practice, however, and was professor of jurisprudence and political economy at Princeton University from 1883 till his death. He was the author of *History of American Politics* (1879); *Connecticut: a Study of a Commonwealth-Democracy* (1887); *History of the United States for Schools* (1885); and *The United States; its History and Constitution*, reprinted from the *Encyclopaedia Britannica* (1889).

JOHNSTON, Alexander Keith, Scottish cartographer: b. Kirkhill, near Edinburgh, Scotland, Dec. 28, 1804; d. Ben Rhydding, Yorkshire, July 9, 1871. His first important work, the *National Atlas*, was published in 1843. He visited Germany and gathered material for *The Royal Atlas of Modern Geography* (1861), one of the most beautiful and minutely accurate atlases published up to that time. His son of the same name (1844-1879), continued his father's enterprises; and died while leading an important exploring expedition to the head of Lake Nyasa in Africa.

JOHNSTON, Annie Fellows, American author: b. Evansville, Ind., May 15, 1863; d. Pewee Valley, Ky., Oct. 5, 1931. She was a sister of Albion Fellows Bacon, and a daughter of Rev. Albion Fellows. She was educated at the University of Iowa (1881-1882), early engaged in literature and became known as a writer of stories for young people. Her husband, William L. Johnston, dying in 1892, she was thrown upon the resources of her pen, and thereafter she produced in rapid succession juvenile stories that became very popular and are still extensively read.

Among these stories are *Big Brother* (1893); *The Little Colonel* (1895), which later, on account of its popularity, gave its name to a long series; *Joel: A Boy of Galilee* (1895); *The Little Colonel in Arizona* (1904); *In the Desert of Waiting* (1905); *Mary Ware* (1908); and *Mary Ware in Texas* (1910).

JOHNSTON, Eric Allen, United States government official and business executive: b. Washington, D.C., Dec. 21, 1895. When he was six years old, his family moved to Spokane, Wash. He was graduated in 1917 from the University of Washington and then served until 1922 in the U.S. Marine Corps, at one time being stationed as an assistant naval attaché at Peking, China. In 1923, at Spokane, he organized and headed the Brown-Johnston Company, and in 1933 also founded and became president of the Columbia Electric and Manufacturing Company. These firms became respectively the largest northwestern United States operators in the fields of electrical contracting and electrical equipment manufacturing.

From 1934 to 1941 Eric Johnston served as national director of the U.S. Chamber of Commerce, and represented liberal business elements favoring greater cooperation among private industry, the government, and labor. In 1942 he was advanced to the presidency of that organization, to which post he was annually re-elected until May 1946. On Sept. 19, 1945, he had become president of the Motion Picture Producers and Distributors of America, Inc., succeeding Will H. Hays as head of the two billion dollar motion picture industry. He was redesignated president on Feb. 6, 1951.

In 1931 Johnston had entered the federal government as chairman of the U.S. Commission on Inter-American Economic Development, and in 1943 returned to the government to serve with several wartime agencies, including the Economic Stabilization Board and the War Manpower Commission; in 1948 he was appointed to the advisory board of the Economic Cooperation Administration. On Jan. 19, 1951, President Truman named him administrator of the Economic Stabilization Agency. He resigned in November 1951 to return to his motion picture post, but on Jan. 23, 1952, accepted appointment to serve additionally as chairman of the International Development Advisory Board.

JOHNSTON, Gabriel, American colonial governor of North Carolina: b. Scotland, 1699; d. July 17, 1752. Very little is known of his personal history. He was educated at the University of St. Andrew's, with a view to the medical profession, which he seems not to have entered. He was for a while professor of Oriental languages at St. Andrew's, and then removed to London, where he was engaged with Pulteney and Lord Bolingbroke in writing for *The Craftsman*. By the influence of Lord Wilmington he was appointed governor of North Carolina, and took the oath of office at Brunswick, Nov. 2, 1734. He was the ablest and most successful of all the colonial governors, holding the reins of power up to the time of his death. Consult Ashe, S. A., *History of North Carolina*, vol. 1 (Greensboro, N. C., 1908).

JOHNSTON, George Ben, American surgeon: b. Tazewell, Va., July 25, 1853; d. Rich-

mond, Dec. 20, 1916. He studied at the University of Virginia (1870-1875) and took his degree (M.D.) at University Medical College, New York University (1876). He became professor of surgery at the Medical College of Virginia; surgeon at the Memorial Hospital, Richmond; at Johnston-Willis Sanitarium; and at the Abingdon Hospital, Abingdon, Va. He was president of the American Surgical Association; of the Medical Society of Virginia; of the Southern Surgical and Gynecological Association; and of Richmond Academy of Medicine and Surgery.

JOHNSTON, Sir Harry Hamilton, English traveler: b. London, June 12, 1858; d. July 31, 1929. He was educated at King's College, London, and the Royal Academy of Arts; traveled in North Africa (1879-1880), and Portuguese West Africa and the Congo region, 1882-1883. He commanded a scientific expedition to Mount Kilimanjaro in 1884, and held various consular posts in Africa. He published *British Central Africa* (1897); *The Colonisation of Africa* (1899); *The Uganda Protectorate* (1902); *Liberia* (1906); *The Story of My Life* (1923).

JOHNSTON, Joseph Eggleston, American Confederate soldier: b. Cherry Grove, Va., Feb. 3, 1807; d. Washington, D.C., March 21, 1891. He was graduated at West Point in 1829; and served with distinction in the Black Hawk and Seminole wars. In the Mexican War he distinguished himself also and was brevetted major and colonel United States Army for bravery at Cerro Gordo. He was promoted quartermaster general of the army with the rank of brigadier general in June 1860, but resigned his commission when Virginia seceded. He was then made major general of Virginia volunteers and later full general in the Confederate service, taking an active part in the first Battle of Bull Run, July 21, 1861, where he personally led a charge with the colors of the 4th Alabama Regiment in his hands. At the battle of Fair Oaks, May 31, 1862, Johnston was severely wounded and was disabled for service for several months. In November he again reported for duty and was assigned to the Military Department of Tennessee. In the operations of Grant before Vicksburg he did everything possible to prevent the shutting up of General Pemberton in Vicksburg, telegraphing him May 2: "If Grant crosses, unite all your troops to beat him. Success will give back what was abandoned to win it." Although similar orders were repeatedly sent to Pemberton, they were disregarded; Pemberton allowed himself to be shut up in Vicksburg and the siege and surrender on July 4 followed. In December of the same year he took command of Bragg's army at Dalton, Ga., and by the spring of 1864 brought it to a state of efficiency which it had not previously had, though it contained only 45,000 men against Sherman's 98,797. The campaign from Dalton to Atlanta, a distance of 100 miles, was a series of severe engagements without a general battle, Johnston's friends claiming "the retreat had been the masterpiece of Johnston's life and one of the most skillful and successful that had ever been executed." On July 17, 1864 Johnston was superseded in this command by General Hood. In the early part of 1865 he was several times defeated by Sherman, to whom he surrendered at Durham Station, N. C., on April 26, the terms of capitulation resembling those granted

to Lee at Appomattox. After the war Johnston engaged in business, and was member of Congress 1876-1878. He was a pallbearer at the funerals of Grant and Sherman. He was United States commissioner of railways 1885-1889 and the author of *Narrative of Military Operations* (1874).

JOHNSTON, Mary, American novelist: b. Buchanan, Va., Nov. 21, 1870; d. Warm Springs, Va., May 9, 1936. In 1898 she became suddenly famous through her *Prisoners of Hope: a Tale of Colonial Virginia* (1898), and her next book, *To Have and to Hold* (1900), was even more popular. She later published *Audrey* (1902); *Sir Mortimer* (1904); *The Goddess of Reason* (1907); *Lewis Rand* (1908); *The Long Roll* (1911); *Cease Firing* (1912); *Hagar* (1913); *The Witch* (1914); *The Fortunes of Garin* (1915); *Foes* (1918); *Michael Forth* (1919); *Silver Cross* (1921); *1492* (1922); *Hunting Shirt* (1931); and *Miss Delicia Allen* (1932).

JOHNSTON, Richard Malcolm, American author and educator: b. Oak Grove, near Powelson, Ga., March 8, 1822; d. Baltimore, Md., Sept. 23, 1898. He was graduated at Mercer University in 1841; was admitted to the bar in 1843; and began practice in Sparta, Ga., the same year. He was professor of literature in the University of Georgia in 1857-1861, and served as colonel in the Confederate service during the Civil War. He established a boys' boarding school at Rockley, near Sparta, which he removed in 1867 to Baltimore and of which he was the head for many years. His publications include *Ogeechee Cross-Firings* (1889); *Studies, Literary and Social* (1891-1892); *The Primes and Their Neighbors* (1891); *Mr. Billy Downs and His Likes* (1892); *Autobiography of Col. Richard Malcolm Johnston* (1900).

JOHNSTON, Robert Matteson, American historian: b. Paris, France, April 11, 1867; d. Cambridge, Mass., Jan. 28, 1920. He studied in France, England, and Germany, graduating (M.A.) at Cambridge University (1889), and becoming barrister-at-law of the Inner Temple, London. He was lecturer on history at Harvard and Mount Holyoke colleges (1904), professor of history at Bryn Mawr College (1907-1908), and professor of history at Harvard after 1908. He wrote *The Roman Theocracy and the Republic* (1901); *Napoleon, a Short Biography* (1904); *The Napoleonic Empire in Southern Italy*, 2 vols. (1904); *Memoirs of "Malakoff"*, 2 vols. (1907); *Leading American Soldiers* (1907); *The French Revolution* (1909); *The Corsican* (1910); *Holy Christian Church* (1912); *Mémoire de Marie Caroline, Reine de Naples* (1912); *Bull Run* (1913); *Arms and the Race* (1915); and *First Reflections on the Campaign of 1918* (1920).

JOHNSTON, Samuel, American lawyer and statesman, nephew of Gabriel Johnston (q.v.): b. Dundee, Scotland, Dec. 15, 1733; d. near Edenton, N. C., Aug. 17, 1816. His father, Samuel, came to North Carolina in 1736, became surveyor general and acquired large landed estates. The son chose the profession of the law, and was clerk of the Superior Court in Chowan County for five years from 1767, and served there also as naval officer under the Crown. Elected to the assembly in 1769, from the first he espoused the popular side, and in the year

773 the assembly placed him on its standing committee of inquiry and correspondence, the organ by which it sought to cooperate with the other provinces. This was the first decisive step toward revolution taken by the legislature of North Carolina. He was an active member of the first two provincial congresses in this province. The 3d and 4th met at his summons, and he presided over the deliberations of both. In the fall, August 1775, the political organization of the province was decided on and the supreme executive authority was entrusted to a provincial council, of which he was made the chairman, and he virtually the governor of the province. In September 1775 he was chosen treasurer for the northern district of North Carolina. In 1781-1782 he was a member of the Continental Congress; in 1787 he was elected governor of the state; and in 1788 he presided over the convention which rejected the federal Constitution, which, however, he supported with all his influence. He was United States senator from 1789 to 1793; and judge of the Superior Court in 1800-1803.

JOHNSTON, William Preston, American educator: b. Louisville, Ky., Jan. 5, 1831; d. Lexington, Va., July 16, 1899. A son of Albert Sidney Johnston (q.v.), he was graduated from Yale in 1852 and took a degree at Louisville Law School the following year. During the American Civil War he served in the Confederate Army as aide-de-camp to Jefferson Davis. Soon thereafter he became professor of history and literature at Washington and Lee University, remaining there until 1877. In 1880 he was appointed resident of Louisiana State University; and after its merger in 1884 with Tulane University he headed the latter institution until his death. He published a biography of his father in 1878, and wrote *The Prototype of Hamlet and Other Shakespearean Problems* (1890).

JOHNSTON, town, Rhode Island, in Providence County; 5 miles southwest of Providence, with no rail connection. This is a busy textile town, surrounded by farmlands. The major industrial establishments are worsted mills, manufacturing yarns. First settlement on this site was in 1650. Originally a part of Providence, Johnston became a separate community in 1759. It was named for Augustus Johnston (c.1730-c.1790) of Newport, attorney general of Rhode Island colony, 1757-1766. Pop. (1950) 12,725.

JOHNSTON ISLAND, an atoll in the North Pacific, 800 miles southwest of Honolulu, possession of the United States. A reef 12 miles in circumference encloses two barren coral islets—Johnston and, northwest of it, Sand Island. There is no permanent population. The atoll was discovered in 1807 by the British warship *Cornwallis*, commanded by Capt. Charles Mervyn Johnston, and originally was named for the vessel rather than for its commander. Claims to ownership were put forward in 1858 by both the kingdom of Hawaii and the United States, nationals of both countries at that period being interested in its guano deposits; annexation of Hawaii in 1898 confirmed American sovereignty. The atoll was used as a native bird sanctuary, and administration of it was entrusted to the Navy Department by Executive Order No. 6935, dated Dec. 29, 1934. Because of its value as a landing place for planes, in 1941 it was pro-

claimed a naval defense area, foreign visitors being forbidden approach.

JOHNSTOWN, city, New York, Fulton County seat, altitude 660 feet, eleven miles west-northwest of Amsterdam, on highways 29, 67, and 148, served by Fonda, Johnstown and Gloversville bus connecting at Fonda with the New York Central Railroad. Situated on the fertile Cayadutta Plateau, Johnstown is a city of fine residences and is an important glove manufacturing center with trade traditions reaching back to the 1760's when a group of glovers from Scotland settled here to make gloves for local sale. Johnstown's other industries include knit goods, leather and gelatin. There are also textile mills, lumber mills, machine shops and tanneries. Johnstown was founded by Sir William Johnson (q.v.) about 1760. His baronial mansion, built by him in 1761-1762, is a colonial type structure which has a tunnel connecting with a heavy stone blockhouse. This Manor House was purchased by the state in 1907 and is now a regional museum managed by the Johnstown Historical Society. The Tryon County Court House erected by Sir William in 1772 is still in use as the Fulton County Court House. Johnstown was incorporated as a village in 1808, and was made a city in 1895. Pop. (1950) 10,923.

JOHNSTOWN, city, Pennsylvania, in Cambria County, altitude 1,170 feet, on the Conemaugh River at the mouth of Stonycreek, about 76 miles southeast of Pittsburgh; it is served by the Pennsylvania and the Baltimore and Ohio railroads. The city lies in a picturesque valley about five square miles in extent which is closely surrounded by steep mountain ranges. It is the center of an important iron ore and bituminous coal mining region; and there are limestone quarries, clay pits, and abundant water power.

The city is a notable industrial center, with iron and steel plants extending for many miles along the river; numerous other manufactures include radiators, mining equipment, chemicals, textiles, stoves, bricks, cement blocks, glass, furniture, and soap.

Johnstown Center, a junior college of the University of Pittsburgh, is here, and the city has art and music associations. Nearby points of interest include the Gallitzin State Forest; Conemaugh Gap, in Laurel Mountain; Stackhouse Park, a bird sanctuary and recreational center; and the immense Quemahoning Reservoir.

Johnstown attained its high civic and industrial development despite repeated ravage by disastrous floods. The most tragic of the city's floods occurred May 31, 1889, resulting from the destruction of a dam across South Fork (a tributary of Conemaugh River) under the pressure of the rain-swollen waters of the three-mile-long Lake Conemaugh. The second most disastrous of Johnstown's floods was in 1936. In the 1936 flood Johnstown's famous Inclined Plane 895 feet long and 504 feet high, which connects the city with its suburban heights, was used effectively in rescue work; its two counterbalanced cable cars are capable of carrying 80 passengers and two automobiles each. During 1938-1942 U.S. Army engineers undertook a flood control project at Johnstown at a cost of \$7,610,000. Johnstown was laid out in 1800 by Joseph Schantz, or Johns, a Swiss. First called Conemaugh and later named for Johns, it was

incorporated as a village in 1800, borough in 1831, and city in 1889. Pop. (1950) 62,723.

JOHORE, jô-hôr', state, Federation of Malaya, at the southern extremity of the Malay Peninsula. It is bounded on the northeast by Pahang, on the northwest by Negri Sembilan and Malacca, and on the west and east coasts by the Straits of Malacca and the South China Sea, respectively; at the extreme south is Johore Strait, $\frac{3}{4}$ mile wide and 32 miles long, across which lies the British island colony of Singapore. Johore has an area of 7,500 square miles, and the population in 1948 numbered 753,891. The capital is Johore Bahru (pop. 38,849), on Johore Strait. Other towns include Bandar Maharani (or Muar), Bandat Penggaram, and Kluang. The highest point is Mount Ophir (Gunong Ledang), 4,186 feet in height, in the northwest part of the state close to the border of Malacca. The principal rivers are the Muar (100 miles long), in the northwest, and the Endau (80 miles), in the northeast. Tin and iron ores are mined, but plantations of rubber constitute Johore's greatest economic asset. There are also oil palm plantations, as well as large areas devoted to coconuts and rice. The Malayan Railway traverses the state. The sultan of Malacca, expelled by the Portuguese in 1511, fled southward and founded the state of Johore. In 1819 Johore ceded Singapore to the East India Company, and, in 1885, the state came under British protection. A rail and road causeway across Johore Strait, completed in 1923-1924, links the state with the colony of Singapore. In common with the other states of the peninsula, in 1946 Johore entered the Malayan Union; this was reorganized in 1948 as the Federation of Malaya.

JOINERY, the industry and art of joining wood, stone, or metal-work by sawing, planing, crosscutting, and the like, connecting by means of glue, framing, nails, cement, or bolts, and fitting the construction for the internal and external furnishings of buildings and ships and for various articles of furniture. In woodwork, grooving, tonguing, mitering, mortising, molding and beading, wedge-cutting, and boring are performed by means of a power tool with different attachments called the joiner. See also BALL and SOCKET; CABINETMAKING; CARPENTRY.

JOINT, in anatomy, an articulation or connection between bones. Many of the immovable joints are so close in their union that the two bones practically become one, as in the dovetailed sutures of the skull. In the make-up of a movable joint there are the two bones, and covering the surface of each a layer of tissue of rubbery consistency called cartilage; binding the bones together are firm inelastic bands of tissue called ligaments. Over the surface of the cartilage and the inner surfaces of the ligaments there is a thin, smooth layer of tissue, the synovial membrane, which is kept constantly moist with an oily fluid to prevent friction. Joints are classified according to the variety of motions they allow: the freest is the ball-and-socket joint, as seen in the hip and shoulder.

Diseases of Joints.—Joint diseases are distinguished by names that indicate the principal structure involved and the causes of disease. Where the cause is a specific disorder, as tuberculosis, rheumatism, syphilis, or gonorrhoea, the

name of that particular malady is given to the inflammation. The only structure of a joint that is apt to be involved alone is the synovial membrane, and inflammation of this structure is called synovitis. Inflammation of all the joint structures is called arthritis, and, where the bone is the primary seat of the trouble, or is principally involved, the name osteoarthritis is used.

Synovitis.—This condition results from injuries (sprains, bruises, and wounds), from overuse acting as an injury, and from poisons circulating in the blood. The joint is painful, moves with greater pain and may be red outside. Blood serum is poured out and the synovial sac is distended. (This condition constitutes "water on the knee.") The general symptoms and severity depend on the cause of the trouble. Absolute rest of the joint and pressure by a snug bandage hasten recovery. When such injuries are repeated, or when the inflammation is slight but persistent, painting with iodine tincture may be of value. When the condition of inflammation reaches the suppurative stage all the structures of the joint are involved and the condition is considered under the term arthritis.

Arthritis (Nonspecific).—This is due to the extension of disease of contiguous bone, or it may result from wounds or in the course of various diseases. The joint becomes swollen, red, and very painful, and the general symptoms are severe. When the poison is sufficiently virulent suppurative arthritis results and the pus collects in the synovial sac. (See INFLAMMATION.) In this condition the joint becomes "boggy," and the poisoning of the entire system is so severe as to warrant the most radical measures for relief. Opening the joint and allowing the escape of the pus, with thorough cleansing, may be sufficient or the limb may have to be sacrificed. See ARTHRITIS; ARTHRITIS, RHEUMATOID; GOUT SYPHILIS.

Bursitis.—An inflammation of a bursa, a serous, lined sac or space situated in a part of the body where there is likely to be increased friction from the movement of adjacent parts. The commonest localities are the shoulder, elbow, knee, hip, and the Achilles tendon. Symptoms are pain on movement of a joint or muscle, and swelling occasionally with an evidence of fluid within the bursa.

Knock-knee.—This is a deformity of the legs consisting in the angular projection of the knees inward, and is sometimes called in-knee. It arises in children learning to walk who are affected with rickets. The deformity is due to the faulty growth of the bones which enter into the joint. In early life, correction of it may be secured by splints and braces; but when the bones become less pliable, the femur, the tibia, or both, may have to be severed by chiseling and the bones held in the normal line by plaster casts until union has taken place. See also RICKETS.

Charcot's Disease.—The peculiar form of arthritis thus named occurs in the course of locomotor ataxia, the knee joint usually being the one affected. The joint swells painlessly, the structures are worn away, and the function of the joint is lost.

Sprains.—These are wrenches resulting in more or less stretching or laceration of ligaments, hemorrhage in and around the joint, and sometimes the displacement of tendons. The part usually swells at once and movement causes severe pain. An injury of this nature may closely re-

semble a joint-fracture. Absolute rest of the joint must be insisted upon, as synovitis may follow. Alternating hot and cold applications, if started early, lessen the damage. The joint should then be snugly bandaged and kept so until swelling and tenderness disappear.

Wounds of Joints.—Injuries of this nature may cause damage directly to the structures or by infecting the joint and producing arthritis. Penetration into the synovial sac is indicated by an escape of the viscid fluid.

Floating Cartilages.—These are rarely seen except in the knee-joint, where they are ordinarily due to a small portion of cartilage being bitten off between the bones; this piece then floats around in the synovial sac and causes trouble when the bones lock together on it. When this occurs, the patient falls to the ground because of the severe pain. The synovial membrane is injured and is apt to be mildly inflamed. These bodies may sometimes be felt through the skin and can be held, by holding the joint in the same position, until an opening is made; but ordinarily when the attacks become so frequent as to be unbearable the joint has to be opened and searched.

JOINT-SNAKE. See GLASS-SNAKE.

JOINT STOCK BANKS. See BANKS AND BANKING — WORLD'S SYSTEMS

JOINT STOCK COMPANY, or ASSOCIATION. The usual definition in law of this term is that a joint stock company is an association of individuals for the purposes of profit, possessing a common capital, being divided into shares, of which each member possesses one or more, and which are transferable by the owner. It is distinguished from ordinary partnerships in that the death or withdrawal of an ordinary partner brings a dissolution of the firm, whereas in the case of joint stock companies death or withdrawal of interest does not involve dissolution. The members of a joint stock company, contrary legislation absent, are liable for all debts of the association the same as partnership members, and a similarity exists respecting other essential features. The joint stock company is distinguished from a corporation inasmuch as in the latter case its shareholders are liable for the debts of the company only to the extent of the share of the capital stock actually contributed by them, whereas members of a joint stock company are liable to contribute to the debts of the company. With these exceptions both forms of association are similar. Statutory enactments in England and the United States have been passed regulating their government. In England the Companies Act of 1862 provides "any seven or more persons associated for any lawful purpose may, by subscribing their names to a memorandum of association, and otherwise complying with the requisitions of the act in respect to registration, form an incorporated company, with or without limited liability." In cases where the intention of the company is that its members shall be subject only to limited liability the word "Limited" has to be stated in the company's title. Joint stock companies have been formed in large numbers under this law and have become one of the most important forms of commercial exploitation in England. In the United States statutes have

been passed regulating the organization, government and management of joint stock companies, fixing the minimum number of members, authorizing the companies to sue or be sued in their own name, providing for the methods of management and establishing the extent of the liability of the members. The usual requirements mentioned in these statutes are that they record articles of association together with names of the members, amount of capital, name of company and character and location of the business. In general it may be asserted that at least one meeting of the members each year is provided by law or the articles of the association, timely notice being given the members as to time and place of said annual meeting. At this annual meeting the stockholders elect their officers by vote. A statute securing to minority stockholders in corporations the power of electing a representative in the board of directors does not apply to joint stock associations unless so incorporated in its articles. Contracts with joint stock associations can be made only with the officers or managers as stated in the associations' articles or as contained in the statute. As a joint stock company has the character and power, substantially, of a corporation, it may be served with process in a foreign jurisdiction. All the members, statutory regulation being absent, are parties to an action either by or against a joint stock association. While suit against members or officers individually is not valid, statutes generally provide that suits may be instituted in the name of a designated officer, as the president or treasurer of the company. But if judgment is properly rendered against a president as such, it does not bind his individual property. Dissolution is usually by consent of the members mutually, but the consent must be unanimous if the association is formed for a special period. Joint stock companies have not gained such popularity here as in England, the laws of corporations being less drastic in the United States than in England. Consult Birdseye, 'New York Statutes,' article 'Joint Stock Associations' (New York 1901); Hurrell and Hyde, 'Law of Joint Stock Companies' (London 1898); Lindley, 'The Law of Companies' (ib. 1889); Scott, 'The Constitution and Finance of English, Scottish and Irish Joint Stock Companies to 1720, Vols. I-III' (Cambridge 1910-12); Lomnitz, H., 'Die Systematische Beurteilung der Veröffentlichungen von aktiengesellschaften' (Leipzig 1908). See CORPORATIONS, HISTORY; CORPORATIONS, LEGAL.

JOINT TENANTS, persons who hold or own lands jointly, by title created expressly by one and the same deed or will. It has been uniformly held by the courts that a unity of possession derived by several and distinct conveyances does not constitute a joint tenancy, but rather a tenancy in common. Joint tenants must have the same interest, derived from the same conveyance, commencing at one and the same time, and held by a united possession. The duration of the estates must be alike in both and also the interest. Should one hold under the conveyance for a term of years, and the other for life, the possession even for a term of years would not be a joint tenancy. The estate must vest in each tenant at the same time. In the case of a will which gives one an

interest to commence at a day named and another an interest to commence a year later, no joint tenancy is created thereby. Should one receive an interest absolute and another an interest for life, the relation of joint tenants would not be created. The doctrine of survivorship is the distinguishing incident of title by joint tenancy. In the event of the death of one of the joint tenants, the survivor is entitled to the whole property, and the full title immediately vests in him. This is not an incident of tenancy in common. Many of the States of the Union have abolished title by survivorship in joint tenancy by constitutional provisions or by express statute enactments. In other States acts have been passed abrogating the distinction between joint tenants and tenants in common; and inheritance by survivorship not being an incident of tenancy in common, such acts are construed by the courts as abolishing such inheritance. Such acts do not apply to existing joint tenancies, but only to such as may be created after the enactment. Consult Kent, J., 'Commentary on American Law' (14th ed., 4 vols., Boston 1896); Blackstone, W., 'Commentaries' (4th ed., 2 vols., Chicago 1899).

JOINT-WORM. See CHALCIS FLIES; WHEAT INSECT-PESTS.

JOINTS, breaks or fractures in the rocks of the earth's crust, dividing them into larger or smaller blocks. They differ from faults (q.v.) only in that the latter have undergone relative slipping of one wall past the other. Joints may be produced either by tension or compression. Columnar jointing (q.v.) in basalts is a good illustration of the former. The latter usually occurs in regions of folding. Joints when very small and closely spaced produce fracture cleavage (q.v.) in rocks. When a large number of joints are parallel they form a joint system. In sedimentary rocks two prominent systems often occur nearly at right angles to each other causing the rock to break in nearly rectangular blocks. When joints become filled with mineral matter they form veins (q.v.). Jointing aids in ground water circulation, particularly in non-porous rocks like granite. It is also an aid in quarrying, unless the joints are too closely spaced, in which case they destroy the value of the rock.

JOINTURE, join'tür, a settlement of lands and tenements made to a woman in consideration of marriage, as a substitute for dower. Originally it was a joint estate limited to both husband and wife as a joint tenancy and subjected to survivorship. The wife takes nothing under the settlement until after the death of the husband, unless special provisions are incorporated, which in reality modifies the effect of a regular jointure. In some settlements, denominated jointures, provisions are inserted to the effect that they are not to exclude enjoyment of dower; but such provisions are an innovation upon the established province of jointures. A good jointure must provide that it shall take effect, in possession and profit, immediately after the death of the husband; that it shall be for the life of the wife herself, and cannot be left in trust for her use and benefit. It should be provided that it is in settlement of all dower interest, in order to maintain its distinctive features of jointure. The settlement must be executed before marriage, as marriage

constitutes the entire consideration for the jointure. Such an instrument properly executed before marriage is binding on the wife and a complete bar to dower in any dowerable lands owned or conveyed by the husband during the marital relations. Without the intervention and assistance of legislative action, no other form of agreement is effectual to bar dower. It sometimes happens that the wife is deprived of her jointure by lawful acts to which she is not a party, as by the lands being taken for public purposes, or in some other manner equally legitimate. In such a case the settlement does not bar her claim against the husband's estate to the extent to which she is deprived of her jointure.

JOINVILLE, zhwăn'vèl', François Ferdinand Philippe Louis Marie d'Orléans, PRINCE DE, third son of Louis Philippe: b. Neuilly, 14 Aug. 1818; d. Paris, 16 June 1900. He entered the naval school at Brest and was made lieutenant in 1836. He distinguished himself (1838) outside Vera Cruz when the war was declared against Mexico. In 1843 he married Princess Francesca of Braganza, sister of Don Pedro II, and he was created vice-admiral in 1845, sitting meanwhile in the Chamber of Peers. The Revolution of 1848 forced his exile to England, leaving, in 1861, for the United States accompanied by his son, the Duc de Penthièvre, and his nephews, the Comte de Paris and the Duc de Chartres. They entered the service under General McClellan. In 1870 he was again in France and, as Colonel Lothérod, was actively present in the 15th Corps before Orléans. He was arrested under instructions of Gambetta and interned five days at the prefecture of Mans and then returned to exile in England. At the 1871 elections he was chosen as representative of both La Manche and Haute-Marne and took the latter seat in the assembly. He retired from politics, but (1886) had to return to exile when the law again banished the royal families. Returning to France in 1895 he died there. He wrote numerous articles on history and the navy which appeared in the *Revue de Deux Mondes* signed as manager or director of that publication; they have since been published in collective form under the title 'Essais sur la marine française: L'escadre de la Méditerranée' (Paris 1853), and 'Études sur la marine et récits de guerre.' His 'La guerre d'Amérique, campagne du Potomac' had its second edition in 1872. In 1894 he published some of his interesting memories of the year 1848 in 'Vieux souvenirs, 1818-1848.'

JOINVILLE, zhwăn-vèl', Jean, STRE DE, French historian: b. Champagne, 1224; d. 24 Dec. 1317. He early entered the service of Thibaut, king of Navarre, and in 1248 raised a troop of 9 knights and 700 armed soldiers, and accompanied Louis IX in his first crusade to the Holy Land. He rose high in favor with Louis, shared his captivity, returned with him to France in 1254 and spent much of his time at court. In 1283 he became governor of Champagne during the minority of Jeanne de Navarre. In 1315 he volunteered to accompany Louis X in his expedition against Flanders. His 'Histoire de Saint Louis,' is one of the most valuable specimens of early French prose. It consists of an elaboration of scattered notes

aken during his military expeditions, combined with hearsay and tradition. It gives a lavish account of King Louis, relating his heroic deeds and his many meritorious qualities. His papers of chancellery are annotated with various remarks of historical interest. The *Histoire* has survived in three manuscripts, first edited in 1546. The best edition with a translation into later French is by N. de Wailly in *Société de l'histoire de France*, 4 vols. (1874). In addition to this work, Joinville is also credited with a *Credo* first reproduced in facsimile in *Mélanges de la société des bibliophiles français* (1837). His chancellery reports are edited in *Bibliothèque de l'école des Chartes* (1867).

JOKAI, yō'koi, Maurus, mou'rōos, or Mór, Hungarian novelist; b. Komárno, Feb. 19, 1825; d. Budapest, May 5, 1904. In 1846 he received his advocate's diploma, but from an early age devoted himself to literary work. In 1842 he produced a drama, *The Jew Boy*; in 1846 his first novel, *Workingdays*, was published; and in 1847 he issued a collection of stories entitled *Flowers of the Desert*. He served the cause of Hungarian independence in the revolutionary movement of 1848, and after its failure was a political suspect during the period of his greatest literary productivity. His *Revolution and Battle Pictures* appeared in 1849. He devoted himself with extraordinary energy to journalistic and literary work, producing in all more than 300 volumes. He was a member of the Hungarian Parliament and the recognized leader of the Liberal opposition after the restoration of the constitution; and in 1897 was appointed a life member of the House of Magnates. He was a successful newspaper editor continuously from 1858 until his death, his last paper being the *Nemzet* (Nation).

He is best known for his numerous romances and novels. Among the latter are *Transylvania's Golden Age* (1851); *The Man with Two Horns* (1852); *The Turks in Hungary* (1852); *A Hungarian Nabob* (1854); *Kárpáthy Zoltan* (1855); *Political Fashions* (1861); *The New Landlord* (1862); *The Romance of the Next Century* (1874); *Our Days* (1881); *The Man of Gold or A Modern Midas* (1886); *There is no Devil* (1891); *Dr. Dumany's Wife* (Eng. trans. 1891); *In Love With the Caarina* (Eng. trans. 1894); *The Nameless Castle* (Eng. trans. 1891); *The Green Book* (Eng. trans. 1897); *The Lion of Janina* (Eng. trans. 1897); *The Poor Plutocrats* (Eng. trans. 1899); *Debts of Honor* (Eng. trans. 1900); *The Baron's Son* (Eng. trans. 1900); *The Day of Wrath* (Eng. trans. 1900). His best plays are *King Kolomon* (1855); *Manlius Sinister* (1856); *Georg Dósa* (1858); *The Martyrs of Szigetvár* (1859), and *Milton* (1878). His *Political Poems* appeared in 1880.

Consult Névy, László, *M. Jokai* (1894), and Temperley, H. W., "Maurus Jokai and the Historical Novel," in the *Contemporary Review*, July 1904; and biographies by Szigmond, F. (1924), and Gál, T. (1925).

JOKJAKARTA, variant of Djokjakarta (q.v.).

JOKULSA, yū'küls-ou, the name of three rivers in Iceland, the largest of which flows north into the Arctic Ocean and contains the Dettifoss, a waterfall 257 feet high. The other two rivers flow into the Skaga Fjord and the Norwegian Sea respectively.

JOLIBA, jōl'ī-bā, a native African name for

the upper Niger River from its source to the northernmost point of the bend.

JOLIET, zhō-lyé', Charles, French journalist; b. St. Hippolyte-sur-le-Doubs, Aug. 8, 1832; d. March 1910. He received his education at the College of Chartres and the Versailles Lyceum. He secured a place in the civil service in 1854, meanwhile writing occasionally for the newspapers. He published *L'Esprit de Diderot* in 1859. After 1864 he devoted himself exclusively to journalistic and literary pursuits. His *Le roman de deux jeunes mariés* (1866) and *Mademoiselle Chérubin* (1870) were very successful. He became known especially for his novels treating incidents of the Franco-Prussian War, among them *Les romans patriotiques* (1871); *Le train des maris* (1872); *Trois uhlands* (1872). Other well-known works were *Le crime du pont de Chatou* (1882); *Violette* (1890).

JOLIET, jō'li-et, city, Illinois, Will County seat; altitude 607 feet; on the Des Plaines River, and the Great Lakes-Gulf Waterway; on the Alton; Michigan Central; Chicago, Rock Island and Pacific; Atchison, Topeka and Santa Fe; Elgin, Joliet and Eastern; and Chicago, Milwaukee, St. Paul and Pacific railroads; 40 miles southwest of Chicago. The region roundabout is fertile farmland while near the city are coal deposits and limestone quarries. The city is a railroad and industrial center with railroad shops, steel mills, automobile factories, oil refineries; and has manufactures of wall paper; wire and wire products; roofing materials, horseshoes, chemicals, art calendars, stoves and furnaces. There is a junior college here and the College of St. Francis, for women. Joliet has a public library, parks, playgrounds, and recreational centers. Pilcher Park Arboretum is planted with wild flowers, shrubs, and a large variety of trees. Bird Haven affords sanctuary to birds of many kinds. It also contains a greenhouse with a desert room for a collection of cactus. Two state penitentiaries are located here. Prominent among engineering projects in the vicinity is the Great Lakes-Gulf Waterway. Two locks and dams were constructed, one having a lift of 41 feet and the other 31. For two miles within the city the waterway is contained within concrete walls. First settlement of the site was made in 1831. It was chartered as a city in 1859, and named for the French-Canadian explorer, Louis Jolliet (q.v.), who with Marquette visited the site in 1673. Joliet's government is administered by a commission. Pop. (1940) 42,365; (1950) 51,601.

JOLIETTE, zhō-lyét', city, Canada, Province of Quebec, county town of Joliette County, on L'Assomption River, 36 miles north of Montreal, on the Canadian National and Canadian Pacific railways. Its industries include lumber, grist, woollen and paper mills; chemical, textile, clothing, confectionery, leather and other factories. Joliette has a Roman Catholic cathedral, a classical college, a normal school for girls, 2 academies, 7 public schools, a hospital (Roman Catholic, 185 beds) and 2 orphanages. The city owns and operates its light and water systems. It was founded in 1841, incorporated in 1863. Pop. (1951) 16,064.

JOLIN, yōō-lēn', Johan Kristofer, Swedish dramatist; b. Stockholm, 1818; d. 1884. He was

engaged as actor at the Stockholm Theatre in 1845–1868 and for part of that time also served as reader and director of the dramatic school. He wrote a number of clever, witty plays, and some novels and sketches. His plays are *Mäster Smith* (1847); *Barnhusbarnen* (1849); *Mjöl-narfröken* (1865); *En man af verld och en man af värde* (1846); *Min hustru vill ha roligt* (1868) and *Smdlands-Petter* (1883). Jolin's complete works were issued in 15 volumes (1872–1888).

JOLINE, Adrian Hoffman, American lawyer: b. Sing Sing (now Ossining), N. Y., June 30, 1850; d. Oct. 15, 1912. In 1870 he was graduated at Princeton University and in 1872 was graduated in law at Columbia University and was admitted to the bar in the same year. At the time of his death he was senior member of the firm of Joline, Larkin and Rathbone. He acquired vast transportation interests; was president of the Missouri, Kansas and Texas Railroad and also the Texas company of the same name from 1906 to 1909; was director of the Albany and Susquehanna Railroad Company, the American and Foreign Marine Insurance Company, the National Surety Company, the United Traction and Electric Company and the Chatham Phenix National Bank. After 1907 he acted as receiver of the Metropolitan Street Railway Company of New York, and he was also known as an expert on railroad legislation and corporation law in general. Mr. Joline was a great booklover and collector of rare works. He wrote *Meditations of an Autograph Collector* (1902); *Diversions of a Book Lover* (1903); *At the Library Table* (1909); *Edgehill Essays* (1910); *Rambles in Autograph Land* (1913).

JOLIOT-CURIE, zhô-lyô' kû-rê' (originally Joliot), **Frédéric and Irène**, French physicists. M. Joliot was born in Paris, France, on March 19, 1900. He was educated at the Paris Institute for Physics and Chemistry and at the Paris Radium Institute. As a preparator to Mme. Marie Curie at the latter place, he met his future wife who also held the same position. Mme. Joliot-Curie (daughter of Pierre and Marie Curie) was born in Paris on Sept. 12, 1897 and was also educated there, receiving the doctor's degree at her mother's institute in 1925. She succeeded to her mother's position there in 1932. The theses of both husband and wife were concerned with alpha-particles. Much of their later work has been done together. They have studied neutron reactions of nuclei, positron emission and the nuclear photoelectric effect. Their alpha-particle studies led to the discovery of artificial radioactivity and the chemical identification of the reaction products. For this work they received the Nobel Prize in 1935. Their early work on the uranium reaction helped to an understanding of the fission process. Mme. Joliot-Curie was undersecretary for scientific research in the cabinet of Léon Blum in 1936, the first woman to hold such a post. M. Joliot was appointed alternate delegate and scientific adviser to the French member of the International Atomic Energy Commission of the United Nations (1946). A Communist Party member since 1946, he was dismissed from his post of French high commissioner for atomic energy in 1950, and a year later received the Stalin Peace Prize. His wife was dropped from the French atomic energy commission in January 1951.

JOLLIET, jôl-y-ét', Fr. zhô-lyé'; or JO-LIET, jô-li-ét', Louis, Canadian explorer: b. Quebec, Sept. 21, 1645; d. Canada, May 1700. He was educated at the Jesuit College of Quebec, and subsequently engaged in the fur trade on the western frontier, thereby becoming familiar with the missionaries and tribes. He was selected by the governor, Louis de Buade, Comte de Palluau et de Frontenac, to ascertain the direction and mouth of the Mississippi, a few of whose affluents had already been visited by missionaries and traders. Starting with his companion, the illustrious Father Jacques Marquette (q.v.), and five other Frenchmen, from Green Bay in June 1673, he ascended the Fox River, portaged to the Wisconsin and descended it to the Mississippi. Canoeing downstream they attained the mouth of the Arkansas.

Having ascertained with tolerable accuracy the general course of the stream, and that it emptied into the Gulf of Mexico, they returned to Green Bay by way of the Illinois River and Chicago portage and Lake Michigan. They had traveled some 2,500 miles. Jolliet went on to Quebec, but lost his journal and other papers when his canoe overturned in the rapids above Montreal. He wrote out from memory a brief description of the voyage, which agrees with the narrative of Marquette, and also prepared a map of the region explored. The French government rewarded him for his services with the island of Anticosti at the mouth of the St. Lawrence, where he built a house and fort for his family. He made further exploratory journeys to Hudson Bay, the St. Lawrence estuary, and charted the coasts of Labrador. In 1691 his island was taken by the British and his property destroyed. In 1697 a seignory was given him, and he was made Canadian royal hydrographer.

Consult Parkman, F., *La Salle or the Discovery of the Great West* (1869); Gagnon, E., *Louis Jolliet, découvreur du Mississippi* (1913); Kellogg, L. P., *The French Regime in the Northwest* (1925).

JOLLY BALANCE, a spring balance devised by Prof. Philipp von Jolly, of the University of Munich, for determining the specific gravities of small objects. In its usual form it consists essentially of a long spiral spring of fine wire, to the lower end of which two pans are attached, one above the other. The lower pan is kept immersed in water, while the upper one remains in the air. The object whose specific gravity is to be determined is placed in the upper pan first, and the extension of the spring due to the weight of the object in the air is noted. The specimen is then transferred to the lower pan (where it will be under water), and the extension of the spring under these new conditions is also noted. The specific gravity of the specimen is then obtained by dividing the extension of the spring when the object is in the air by the difference between the two extensions as observed for air and water, respectively. The extension of the spring is observed by means of a graduated scale engraved upon a mirror that is placed back of the spring, and parallel to it. In taking a reading, the eye is brought into such a position that the image of the pupil is seen in the mirror directly behind the image of the pointer at the lower end of the spring. In this way errors of parallax are avoided in the readings. The Jolly balance is chiefly used for the rapid determination of the specific gravities of minerals at

similar objects, where great precision is not essential.

JOLLY BEGGARS, The. This poem is one of many instances of Robert Burns' range of gifts and interests. He had always had a taste, he says in a letter, for the company of blackguards, though he had no ambition to become one. The poem is called a cantata; and is, indeed, an opera of beggary, with the scene laid in Poosie Nansie's hedge alehouse; and the characters, all noisy vagrants from roaming the world, rising one after another, with short introductions of them in recitativo, to sing of their braveries and loves, lusts, debaucheries, of the highways, the hedges, of old days, and soldier boys and youth. The whole piece is done in the manner of Jan Steen and Ostade among the painters; and in literature, of the folk ballads, of Swift, Rabelais, Fielding, and Shakespeare's Falstaff.

The frequent tendencies in later decades to something of the broad realism of earlier periods, help clear the way for *The Jolly Beggars* of the apologetic types of criticism from which it has often suffered, and make possible a more honest and direct approach. The chief excellence of the work lies in its power of minstrelsy, which here takes the direction of coarse, carousing, bludgeoning humor, genuine balladry of the highway people: one of the best pieces in English of genre, it is kept perfectly to one key.

The Jolly Beggars was written in 1785, after a visit to an alehouse where a party of vagrants were carousing; but out of consideration for his public's sense of propriety, Burns excluded it from his published work. So that the poem was first printed, though only in part, in 1799, from a manuscript given to friends. In 1801 another manuscript was added to the first, making the poem complete as it now stands.

STARK YOUNG.

JOLO, hō'lō, or SULU, sōō'lōō, seaport, Philippine Islands, capital of Sulu Province, located on the northwest coast of Jolo Island, the principal island of the Sulu Archipelago. The island, 345 square miles in area, lies between the Sulu Sea and Celebes Sea, southwest of Basilan Island. Three parallel mountain chains cross the island, the highest peak being 2,894 feet above sea level. Most of the inhabitants are Moros; they raise stock and engage in fishing, and to a lesser extent cultivate the rich volcanic soil. The seaport is a center of the pearl fishing industry and has a considerable transshipment trade with Zamboanga, Manila, and Singapore. The sultans of Sulu formerly resided at Jolo. The modern town was founded by the Spaniards in 1878. On April 9, 1945, during World War II, United States forces reoccupied Jolo and thus secured complete control of the Sulu Archipelago. Pop. of municipality (1948) 18,202.

JOLY, jōl'i, John, Irish physicist: b. Holly-wood, Ireland, 1857; d. Dublin, Dec. 8, 1933. He was educated at Trinity College, Dublin, and in 1882 joined the faculty as demonstrator in civil engineering. In 1893 he was appointed demonstrator in experimental physics, and in 1897 he became professor of geology and mineralogy at the University of Dublin. Instruments devised by him included a diffusion photometer which was named for him. He was also a pioneer in

color photography, perfecting a method which was used in 1897 for making lantern slides. Other inventions included a melometer, to determine the melting points of minerals, and a steam calorimeter. With Walter Clegg Stevenson (1877-1931), a Dublin surgeon, he perfected a method in radium therapeutics for securing uniform radiation which was used in the treatment of cancer. He also conducted researches on the crust formation of the earth. In 1911 he was awarded the Boyle medal of the Royal Dublin Society. He was one of the editors of the *Philosophical Magazine*, and he published *Radioactivity and Geology* (1915); *Synchronous Signalling in Navigation* (1920); *The Surface History of the Earth* (1925).

JOLY DE LOTBINIERE, zhō-lē dē lō-bēnyār, Sir Henri Gustave, Canadian politician: b. Epernay, France, Dec. 5, 1829; d. Quebec, Nov. 15, 1908. In 1888 he changed his surname from Gustave to Joly de Lotbinière—his mother's family name. He was called to the bar of Lower Canada in 1855, and he first entered the provincial house of assembly in 1861. From 1867 to 1874 he served as a Liberal in the House of Commons, at Ottawa, and in the provincial legislative assembly, at Quebec. During 1878-1879 he was provincial premier of Quebec, and thereafter he led the opposition until 1883. He received a knighthood in 1895, and from 1897 until 1900 he was minister of inland revenue. He was lieutenant governor of British Columbia, 1900-1906.

JOMARD, zhō-mār', Edmé François, French geographer and Egyptologist: b. Versailles, Nov. 27, 1777; d. Paris, Sept. 23, 1862. In 1798 he went to Egypt with the French army as a member of the scientific commission. Returning to France in 1802, he was appointed secretary of the commission, and in this capacity he edited for 20 years the *Description de l'Égypte*. He was one of the founders in 1821 of the Geographical Society of Paris, and in 1828 he was appointed curator-director of the Royal Library. On his advice, Mehemet Ali, viceroy of Egypt, sent several Egyptian youths to be educated under him in France, and in this way the Institut des Égyptiens was established. He published *Remarques sur les rapports de l'Éthiopie et l'Égypte* (1822) and *Voyage à l'Oasis de Syouah* (1823).

JOMINI, zhō-mē-né', BARON (Antoine) Henri, soldier and writer on military affairs: b. Payerne, Vaud, Switzerland, March 6, 1779; d. Passy, France, March 24, 1869. His military career began in a Swiss regiment in French service. Between 1801 and 1805 he gave much of his time to writing the *Traité des grandes opérations militaires*, on which his fame rests, and one result of which was that he entered the French army as aide to Marshal Ney. He fought at Austerlitz in 1805 and Jena in 1806; and in 1807, after the Treaty of Tilsit, he became chief of staff to Ney and was created baron. In 1813 he withdrew from the French army and entered the service of Russia, being appointed lieutenant general and aide-de-camp to Emperor Alexander I; in 1837 he became military instructor to the cesarevitch (later Alexander II). Beside the work already mentioned, his *Histoire critique et militaire des campagnes de la Révolution*, 15 vols. (1819-1824), and

'*Précis de l'art de la guerre*' (1836) are still of interest and value. Consult Lecomte, '*Le général Jomini*' (3d ed., Lausanne 1888).

JOMMELLI, yō-mēl'ī, Nicolò, Italian composer, b. Naples, 11 Sept. 1714; d. 28 Aug. 1774. He studied music with Muzillo, Prota, Mancini and Leonardo Leo; first composed cantatas, then applied himself to dramatic music, produced his first opera, '*Errore amoroso*,' at Naples, in 1737, and his first serious opera, '*Odoardo*,' in 1738, and the fame achieved by these works led to his being invited to Rome in 1740. There, under the patronage of Cardinal York, he composed two new operas, and in 1741 went to Bologna and composed '*Ezio*' and studied with Padre Martini. He then made a tour of the chief cities of Italy; produced '*Didone*' in Rome, '*Merope*' for the theatre and a '*Laudate*' for the church of San Marco, Venice, and '*Eumene*' in Naples. He spent two years in Vienna giving instruction in music to the empress; and in 1748 was recalled to Rome, where he composed '*Artaserse*' and the oratorio '*La Passione*' and was appointed chapel-master of Saint Peter's Church. He resigned this office in 1754 and was chapel-master and court-composer at Stuttgart till 1772, when he returned to Naples. His last, and believed by many his greatest, work, the '*Miserere*,' was composed after he had been paralyzed. His works comprise 40 operas, 5 cantatas, 4 oratorios and 34 church compositions. Consult Albert, H., '*Niccolo Jommelli als Opernkomponist*' (Halle 1908).

JONAH, a Hebrew prophet: b. Gath-hepher, Zebulun, c. 781 to 741 B.C. The son of Amittai, he lived in the early years of the reign of Jeroboam II, king of Israel, who acceded to the throne in 781 B.C. He foretold the victories of Jeroboam over the Syrians, as related in 2 Kings xiv, 25. The book of Jonah, written some three centuries later, describing his mission to Nineveh to warn the inhabitants of the destruction of their city within 40 days tells all that is known of his subsequent life. See **JONAH, BOOK OF**.

JONAH, Book of. The book of Jonah is written concerning a prophet, Jonah, the son of Amittai, doubtless to be identified with the prophet of that name whose prediction in the time of Jeroboam II is recorded in 2 Kings xiv, 25. The book was written much later than the lifetime of the prophet, however. The language of the book is particularly decisive, for Aramaisms and other late words afford clear evidence that it was written after the exile. The thought of the book makes it probable that it was intended as a protest against the narrowness of postexilic Judaism, which was most conspicuous after the time of Ezra and Nehemiah. It is probable, therefore, that the book is not earlier than 400 B.C., and may be somewhat later than that. The phrase "the king of Nineveh," iii, 6, is in accord with this dating, since it is one which would not have been used until some time after the end of the kingdom of Assyria, in 606. Concerning the personality of the author, or authors, nothing is known outside of the book itself.

The nature of the book is much disputed. It has in the past often been considered to be historical, but various features of the book are

against that, of which the swallowing of Jonah by the fish and his later deliverance unhurt, and the repentance of the whole city of Nineveh at the call of an unknown foreign prophet are but more conspicuous features among many improbabilities. It is a book of wonders, not of history. Some have given it an allegorical interpretation, Jonah representing the nation Israel and Babylon being the fish which swallowed the nation during the exile. But the details of the treatment do not yield themselves readily to an allegorical interpretation. It is to be regarded as a story designed to teach a lesson, a romance. The story as such is doubtless the creation of the author. It may be based upon some current story or stories. Similar stories of the swallowing of a man by a monster and later deliverance are common among many ancient peoples. The somewhat similar story of Perseus and Andromeda is located at Joppa, the port from which Jonah embarked.

There has been some question whether the book is all by one author. With the exception of a few words here and there, however, there seems no reason for question except in reference to the psalm in ii, 2-9. That is undoubtedly not by the author of the remainder of the book. First of all, it is inappropriate at this point, Jonah can hardly have been thought to utter this while within the whale, and in its nature it is a thanksgiving for deliverance and not a prayer for such deliverance. It would be more appropriate if put after verse 10. But even then it would be in some measure inappropriate. The psalm presupposes no such experience as Jonah's but only drowning. The drowning, in accordance with the usage of the psalms of the Old Testament, is more probably figurative, as a description of extreme trials, than literal. The psalm was doubtless composed independently and probably in use in some collection of psalms, it being similar to those in the Book of Psalms. Nothing definitely indicates whether the psalm was added by the author or by a later reader or editor. In any case it is more probable that it was originally designed to be after verse 10, but was accidentally transposed. If added later, it was probably written on the margin, so that its transposition would be easy. The psalm consists largely of reminiscences of other psalms, and hence is probably postexilic.

In literary form the book excels; as a romance it is very artistically worked out.

There are two principal thoughts in the book. The first concerns the nature of the prophet's work, particularly in prediction. The purpose of the prophet is a practical one, to affect the lives of the hearers; not to present a program of the future, but so to present that future as to influence the lives of those addressed. This influence may so change their lives that the prediction of punishment will not be fulfilled. The prediction is conditional, as had been stated by earlier prophets. The other thought, and the principal one, concerns the character of God and his plans for men. The thought of God is not limited to the nation Israel, but is concerned with mankind generally. Even the great oppressor of Israel, Assyria, is the object of God's loving care; the people of that nation may find mercy from God if they repent. It is God's world-wide plans of mercy for men that are here presented, quite in the spirit of Deuteronomy.

Isaiah. It is one of the most exalted messages in the Old Testament.

GEORGE RICKER BERRY.

JONAS, yō'nās, **Justus** (originally **JOSEPH**), German Protestant reformer: b. Nordhausen, Germany, June 5, 1493; d. Eisleben, Oct. 9, 1556. He studied at the University of Erfurt, of which he was elected rector in 1519. A leader of the Reformation, he accompanied Martin Luther to the Diet of Worms (1521), and assisted him in translating the Old Testament. From 1521 to 1541 he was professor of canon law at Wittenberg. He was at Luther's deathbed at Eisleben (Feb. 18, 1546) and preached his funeral sermon.

JONATHAN, jōn'ā-thān, eldest son of Saul, king of Israel. He aided Saul in repelling the Philistines from Israel, but met his death with his father and two brothers at the Battle of Gilboa, about 1000 B.C. (1 Samuel 31). The friendship between Jonathan and David, Saul's successor as king of Israel, is one of the most famous in all literature. Despite his own claim to succession as Saul's eldest son, Jonathan refused to agree to the murder of David, suggested by Saul, and aided his friend to escape from the king's wrath (1 Samuel 19-20). Their friendship is immortalized in the lamentation over Saul and Jonathan composed by David at their deaths (II Samuel 1:19-27).

JONATHAN MACCABAEUS. See **MACCABEES**.

JONES, jōnz, **Alfred**, American engraver: b. Liverpool, England, April 7, 1819; d. New York, N. Y., April 28, 1900. Coming to the United States when a young man, he worked as an apprentice engraver in Albany, N. Y., and New York City, studying art in his leisure time at the National Academy of Design. He won the academy's first prize in 1839 and was elected an associate two years later. His engravings of *The Farmer's Evening*, after W. S. Mount, and *The Image Breaker*, after E. Leutze, were popular favorites, as were many of his engravings in *Godey's Lady's Book* and *Graham's Magazine*. After further studies in Paris in 1846, he set up his own business in New York. Jones devised a method which anticipated the photographic halftone, preparing the plate from a glass negative, on which a screen was formed by mechanical ruling. He was elected a full member of the National Academy in 1851, and was its secretary and treasurer for many years.

JONES, **Anson**, last president of the Republic of Texas: b. Great Barrington, Mass., Jan. 20, 1798; d. Houston, Texas, Jan. 9, 1858. He received a medical degree from Jefferson College, Canonsburg, Pa., in 1827 and, after practicing for several years in Philadelphia, moved to New Orleans and thence to Brazoria, Texas (1833), where he quickly became a leader in the pioneer community. One of the early advocates of Texan independence, he left his medical practice to serve in the war with Mexico (1836) and fought as a private in the Battle of San Jacinto. Afterward he was elected a representative of Brazoria County (1837-1838) in the Texas Congress. In 1838 he was appointed minister to Washington, and the following year was elected to the Texas Senate. He became secretary of state after the

re-election of President Sam Houston in 1841, and served in that office until Sept. 2, 1844, when he was elected president of Texas for three years from the ensuing December. After Texas decided, on July 4, 1845, in favor of annexation, Jones relinquished his authority (Feb. 19, 1846) to James Pinckney Henderson, newly elected governor of the state. He took his own life 12 years later. Jones County and Anson, its county seat, were named after him.

Consult Jones, Anson, *Memoranda and Official Correspondence Relating to the Republic of Texas, Its History and Annexation* (New York 1859), which contains an autobiography; Gambrell, Herbert P., *Anson Jones, The Last President of Texas* (New York 1948).

JONES, **Arthur Edward**, Canadian priest and archaeologist: b. Brockville, Ontario, Canada, Nov. 17, 1838; d. Montreal, Quebec, Jan. 19, 1918. Educated at St. Mary's College, Montreal, he entered the Jesuit Order in 1857, and served as professor of literature, rhetoric, and geometry at St. John's College (now Fordham University) in New York City before being ordained to the priesthood in 1873. On returning to Canada he taught English literature and geometry at St. Mary's College, and after 1882 was archivist there. An authority on the early Huron villages of Canada, he lectured extensively on this subject, and at the St. Louis Exposition of 1904 won the grand prize for his archaeological exhibit and a medal for his work as an archivist. Besides some controversial pamphlets dealing with the Jesuits, he edited Pierre Laure's *Mission du Saguenay* (1889); and published the *Aulneau Collection: Rare or Unpublished Documents* (1893), and *Old Huronia* (1908).

JONES, **Casey** (real name **JOHN LUTHER JONES**), American railroad engineer: b. near Cayce, Ky., March 14, 1864; d. near Vaughan, Miss., April 30, 1900. A railroad worker from the age of 16, he became an engineer on the Illinois Central line about 1890. His death in a collision with a freight train has been immortalized in a ballad originally composed by Wallace Saunders, a Negro roundhouse worker, and since revamped in many versions. According to one tradition, Casey had completed his regular run on the Cannonball Express to Memphis, Tenn., and was acting as a substitute for another engineer when the fatal accident occurred. In 1938 a bronze tablet in his honor was dedicated at Cayce, Ky., his home in early life and the source of his nickname.

Consult Lee, Fred J., *Casey Jones, Epic of the American Railroad* (Kingsport, Tenn., 1939).

JONES, **Catesby ap Roger**, American Confederate naval officer: b. Fairfield, Va., April 15, 1821; d. Selma, Ala., June 20, 1877. He was appointed a midshipman by President Andrew Jackson in 1836, advanced to lieutenant in 1849, and in 1853 assisted Lieutenant John A. B. Dahlgren (q.v.) at the Washington Navy Yard in the development of the Dahlgren gun. At the outbreak of the Civil War he joined the Confederate Navy with the rank of lieutenant, and became executive officer of the rebuilt ironclad *Merrimac* (named the *Virginia* by the Confederates). Following the battle of March 8, 1862, in which the *Merrimac* destroyed the Union ships *Cumberland* and *Congress*, Jones replaced the wounded Capt. Franklin Buchanan, and the next day commanded the *Merrimac* in the famous duel with the *Monitor*.

Promoted in 1863 to commander, he was put in charge of ordnance production for the Confederate Army and Navy at Selma, Ala. He met his death by shooting, in a quarrel with a neighbor at Selma.

JONES, Daniel, English phonetician: b. Sept. 12, 1881. Lecturer in phonetics at University College, London, from 1907 and professor from 1921 until his retirement in 1949, he served also as assistant secretary (1907-1927), and as secretary (1928-1950) of the International Phonetic Association, and as assistant editor (1907-1940) and editor (1941-1950) of its organ *Le maître phonétique*. Besides works in collaboration with Russian, Indian, Chinese, and Italian authorities, he published *Outline of English Phonetics* (8th ed., 1954); *English Pronouncing Dictionary* (12th ed., 1955); and *The Pronunciation of English* (1950).

JONES, Ebenezer, English poet: b. London, England, Jan. 20, 1820; d. Brentwood, Essex, Sept. 14, 1860. An obscure, overworked clerk in the office of a tea merchant, his writings attracted little attention in his lifetime but won him posthumous fame, largely because of the praise given by Dante Gabriel Rossetti and Theodore Watts-Dunton to his three remarkable poems—*Winter Hymn to the Snow*, *When the World is Burning*, and *To Death*—written when he was dying of consumption. Earlier he had published *Studies of Sensation and Event* (1843) and a pamphlet, *The Land Monopoly* (1849), which anticipated the land nationalization proposals of Henry George.

JONES, Sir Edward Burne-. See **BURNE-JONES, Sir Edward Coley**.

JONES, Francis Coates, American artist: b. Baltimore, Md., July 25, 1857; d. New York, N. Y., May 27, 1932. He studied at the École des beaux-arts in Paris, and opened a studio in New York City in 1882, specializing in figure painting. He received the Clark Prize of the National Academy of Design in 1885 and was elected a member nine years later. Medals were awarded his canvases at the Pan-American Exposition (1901) and the St. Louis Exposition (1904). His paintings of children are particularly well regarded.

JONES, George, American newspaper publisher: b. Poughkeepsie, N. Y., Aug. 16, 1811; d. Poland Springs, Me., Aug. 12, 1891. When Horace Greeley, a boyhood friend, founded the *New York Tribune* in 1841, Jones became a member of the business staff, declining Greeley's offer of a partnership in the enterprise. Ten years later he joined Henry J. Raymond, formerly assistant editor of the *Tribune*, in founding the *New York Times*, of which he became business manager in 1856 and publisher in 1869, when Raymond died. Jones' most notable achievement was the exposure (1870-1871) of "Boss" William M. Tweed, Tammany leader, who was finally convicted of grand larceny in 1873, largely because of the *Times* campaign. Jones' regime at the *Times* marked the beginning of the end of the traditional view of a newspaper as the personal organ of its publisher. He preferred to remain in the background, delegating wide discretion to his editors in matters of policy though retaining the final say on major issues.

JONES, George Heber, American missionary: b. Mohawk, N. Y., Aug. 14, 1867; d. Miami, Fla., May 11, 1919. In 1887 he was appointed a missionary in Korea by the Methodist Episcopal Church and stationed at Seoul, where he became principal of the Pai Chai English School. While presiding elder of the Chemulpo District (1893-1903), he founded 44 churches and converted some 2,800 Koreans to Christianity. After four years in the United States, during which he aided in translating the Bible into Korean, he returned to Korea to become president (1907-1911) of the Biblical Institute and the Union Theological School there. He served as editorial secretary to the Board of Foreign Missions from 1913 to 1919, and during part of that time was special lecturer on missions at the Boston University School of Theology. He published *Korea: the Land, People and Customs* (1907), and *English-Korean Dictionary of Scientific and Technical Terms* (1910).

JONES, George Wallace, American pioneer and legislator: b. Vincennes, Ind., April 12, 1804; d. Dubuque, Iowa, July 22, 1896. He graduated (1825) from Transylvania University in Kentucky, where he came under the influence of Henry Clay and formed a long friendship with Jefferson Davis. Moving afterward to Sinsinawa Mound, Wis., then a Michigan Territory mining community, he took a prominent part in frontier affairs, served in the Black Hawk War (1832), and was elected to Congress from the Michigan Territory in 1835. When, chiefly through his efforts, the Wisconsin Territory was formed in 1836, Jones became its delegate to Congress, where he also secured the organization of the Iowa Territory (1838). He was appointed surveyor general of Iowa and Wisconsin in 1840 and, after the admission of Iowa to statehood (1846), became one of the state's first United States senators (1848-1859). In the latter year he was made United States minister to New Granada (Colombia). On his return to the United States in 1861, he was arrested for corresponding with Jefferson Davis, but was released on the order of President Abraham Lincoln. His lukewarm attitude toward the Civil War brought about his political eclipse thereafter.

JONES, Sir Harold Spencer, English astronomer: b. London, England, March 29, 1890. He was educated at Jesus College, Cambridge, and from 1923 to 1933 was government astronomer at the Cape of Good Hope. In 1933 he became astronomer royal at the Greenwich Observatory. Besides important research on the motion of the earth's poles, he computed more accurate values for the mass of the moon. He has been president of the British Horological Institute since 1939. His principal published works are *General Astronomy* (1922); *Worlds Without End* (1935); *Life on Other Worlds* (1940).

JONES, Harry Clary, American chemist: b. New London, Md., Nov. 11, 1865; d. Baltimore, Md., April 9, 1916. He took his Ph.D. at Johns Hopkins University in 1892 and after two years' study in Europe, returned to the university in 1895 to found its department of physical chemistry, the first such department in the United States. He remained a member of the Johns Hopkins faculty until his death. His *Elements of Physical Chemistry* (1902) went through four American

ditions and was translated into Italian and Russian.

JONES, Henry (pseudonym **CAVENDISH**), English physician and whist expert: b. London, England, Nov. 2, 1831; d. there, Feb. 10, 1899. While practicing medicine in London (1852-1869), he became an expert on whist and, under the nom de plume "Cavendish" (the name of the whist club to which he belonged), published *Principles of Whist* (1862), which soon became the standard authority on the game. By 1863 it had reached a fifth edition, retitled *The Laws and Principles of Whist*. Jones also wrote manuals on many other card and board games, as well as on billiards, lawn tennis, and croquet.

JONES, Henry Arthur, English playwright: b. Grandborough, Buckinghamshire, England, Sept. 20, 1851; d. London, Jan. 7, 1929. Leaving school at the age of 12, he was destined for a commercial career, and from 1869 to 1879 worked as a traveling salesman out of London. In 1878 his first play, *It's Only Around the Corner*, was produced at Exeter, and he scored his first London success with *The Silver King* (1882), a melodrama. Other outstanding successes were *Saints and Sinners* (1884), *The Dancing Girl* (1891), *The Case of Rebellious Susan* (1894), *The Masqueraders* (1894), *Michael and His Lost Angel* (1896, q.v.), *The Liars* (1897), and *Mrs. Dane's Defence* (1900). Together with Sir Arthur Wing Pinero (q.v.), Jones was one of the pioneers of modern realistic drama in England, following the path of Henrik Ibsen on the Continent. His view of the theater as an instrument of social criticism as well as an art was expounded in *The Renaissance of the English Drama* (1895).

Consult Jones, Doris A., *Taking the Curtain Call: the Life and Letters of Henry Arthur Jones* (New York 1930); and Cordell, Richard A., *Henry Arthur Jones and the Modern Drama* (New York 1932).

JONES, Hilary Pollard, United States naval officer: b. Virginia, Nov. 14, 1863; d. Washington, D.C., Jan. 1, 1938. He graduated from the United States Naval Academy in 1884, served in the Spanish-American War, and was promoted through grades to rear admiral in 1917. During World War I he commanded a cruiser division in the Atlantic Fleet. Advanced to vice admiral (1919) and to admiral two years later, he was commander in chief of the Atlantic Fleet (1921-1922) and of the United States Fleet until 1923, when he was appointed to the General Naval Board. He was a delegate to the Conference for Limitation of Naval Armaments at Geneva in 1927, and retired from active service later that year.

JONES, Howard Mumford, American educator and author: b. Saginaw, Mich., April 16, 1892. After graduating from the University of Wisconsin (1914), he taught literature at the universities of Texas, North Carolina, and Michigan, and became professor of English at Harvard in 1936. A scholar with a wide range of intellectual interests, he made a number of significant contributions to the study of American literary history. Among them are *American and French Culture, 1750-1848* (1927); *The Life of Moses Coit Tyler* (1933); *Ideas in America* (1944); and *The Theory of American Literature* (1948). He also edited *The Poems of Edgar Allan Poe* (1929) and the writings of other American authors.

JONES, Hugh Bolton, American artist: b. Baltimore, Md., Oct. 20, 1848; d. New York, N. Y., Sept. 24, 1927. He studied art in Baltimore, and later in Spain and France. Specializing in landscape painting, he received awards at the Paris expositions of 1889 and 1900; the Webb Prize of the Society of American Artists in 1902, and a gold medal at the St. Louis Exposition of 1904. His *Autumn* and *Spring* were acquired by the Metropolitan Museum, New York; other landscapes of his are in the Corcoran Gallery, Washington, D.C., and the Brooklyn Institute Museum. He was elected to the National Academy of Design in 1883, and was a member of the National Institute of Arts and Letters.

JONES, Inigo, English architect: b. London, England, July 15, 1573; d. there, June 21, 1652. The son of a clothworker, he began life as a carpenter but, securing a patron (probably William, 3d earl of Pembroke), was able to go abroad to study landscape painting. He visited France and Germany, and in Italy became absorbed in the designs and monuments of Andrea Palladio (q.v.), whose style he assimilated so completely that he became known as "the English Palladio." While still at Venice he acquired a wide reputation, and in 1604 was invited by Christian IV to Denmark. Returning the next year to England, he was made architect to Queen Anne and later appointed surveyor of works to Henry, prince of Wales. Further to secure royal patronage he undertook the designing of costumes and settings for the masques and pageants popular at the court of James I and later under Charles I. In this work he was associated unhappily with Ben Jonson (q.v.), author of the lyrics and dialogue, who made Jones the target of his satire in *A Tale of a Tub*.

After another visit to Italy (1613-1614) for the further study of Renaissance architecture, Jones was appointed royal surveyor and commissioned to prepare designs for a new palace at Whitehall, of which the banquet hall (the only part completed, 1622) is considered his masterpiece. Besides his work at Whitehall, he restored the old St. Paul's Cathedral in London, adding a new portico which was regarded as one of his finest achievements. He also built St. Paul's Church and the piazza in Covent Garden; the queen's house at Greenwich; the water gate at York House; and Ashburnham House, Westminster. In Wiltshire he constructed a portion of Wilton House, seat of Philip, 4th earl of Pembroke. During the Civil War Jones was taken prisoner by Oliver Cromwell at the marquess of Winchester's estate in 1645, and fined heavily as a royalist sympathizer.

To Jones is largely attributed the revival of classic architecture in England, and the manor-house style fully realized in the ensuing Georgian period. His notes on Stonehenge, made during his investigation of those ruins for James I in 1620, were published in 1655 as *The Most Notable Antiquity of Great Britain, Vulgarly Called Stonehenge*; they reach the unique conclusion that the pile was originally a Roman temple. Others of his published works are *The Architecture of Palladio* (4 vols., 1715), and designs for public and private buildings, which appeared in 1727. A sketch book of his was reproduced by lithography in 1832, and a volume entitled *Designs for Masques and Plays at Court* was published at Oxford in 1924.

Consult Gotch, John A., *Inigo Jones* (London 1928); Sitwell, Sacheverell, *British Architects and Craftsmen*, 3d ed. (London 1947).

JONES, Jacob, American naval officer: b. near Smyrna, Del., March 1768; d. Philadelphia, Aug. 3, 1850. He entered the United States Navy in 1799 as a midshipman, and while serving in the war with Tripoli was captured in 1803, and held a prisoner for 18 months. In 1812 he became commander of the *Wasp* and with her captured the English brig *Frolic*, Oct. 18, 1812, but on the following day encountered the English war vessel *Poictiers*, 74 guns, by which both the *Wasp* and its prize were taken. He was released on parole at Bermuda and for his victory over the *Frolic* was voted a gold medal by Congress and \$25,000 was granted to him and his crew in payment of the personal loss they had sustained. He subsequently commanded squadrons in the Mediterranean and the Pacific.

JONES, James Kimbrough, American politician: b. Love, Marshall County, Miss., Sept. 29, 1839; d. June 1, 1908. His parents were residents of Tennessee, but in 1848 removed to a plantation in Dallas County, Ark. James served in the Confederate army during the Civil War, and then engaged in planting till 1873, when he began to practise law in Dalton County, Ark. He was a member of the State senate in 1873-1877 and its president in the last-named year. In 1881-1885 he was a member of Congress, having been elected as a Democrat, and in the latter year was elected to the United States Senate. He was re-elected in 1890 and 1897, and was chairman of the Democratic National Committee, conducting the Presidential campaigns of 1896 and 1900. Jones was an ardent tariff reformer. He retired from politics in 1903 and entered on the practice of law in Washington.

JONES, Jenkin Lloyd, American Unitarian clergyman: b. Llandysil, Cardiganshire, Wales, Nov. 14, 1843; d. Sept. 12, 1918. He came to America with his parents while an infant, served in a Wisconsin regiment during the Civil War, and was graduated from the Meadville (Pa.) Theological Seminary in 1870. He was instrumental in organizing the Congress of Religion. *Unity*, the organ of the congress, was edited by him after 1879. In 1909 he was given the degree of LL.D. by the University of Wisconsin. He was pastor of All Souls Unitarian Church, Janesville, Wis., 1874-1883; was secretary of the Western Unitarian Conference for nine years, and after 1883 was pastor of All Souls Church, Chicago (independent), and after 1905 head resident of the Abraham Lincoln Centre. He was, from its inception, identified with the Peace movement, and was noted as a lecturer throughout the United States. Among his published works are *The Faith that Makes Faithful*, with W. C. Gannett (1886); *Practical Piety* (1890); *Bits of Wayside Gospel* (1899); *Love and Loyalty* (1907); and *On the Firing Line in the Battle for Sobriety* (1910).

JONES, John, American surgeon: b. Jamaica, Long Island, N. Y., 1729; d. Philadelphia, Pa., June 23, 1791. Of Welsh Quaker stock, both his grandfather Edward Jones, who came to Pennsylvania in 1682, and his father Evan Jones were physicians. After attending a private school in New York, John Jones went to Philadelphia to

begin his medical studies under his uncle Dr. Thomas Cadwalader. He completed them in London under William Hunter and Percival Pott, and in Paris under Petit and Le Dran. He also studied at Edinburgh and Leiden and finally obtained his medical degree at the University of Rheims in 1751. His graduation thesis entitled *Observations on Wounds* was published in New York in 1765. After receiving his degree he settled in New York to practice as surgeon and obstetrician. He is said to have been the first American lithotomist, sometimes performing the operation in a minute and a half. He served as surgeon in the French and Indian War and, on the organization of the medical department of King's College (Columbia University) in 1767, was appointed professor of surgery and obstetrics. In 1770 with Dr. Samuel Bard and others he founded the New York Hospital. After the capture of the city in 1776 and destruction of the hospital in the great fire, he moved to Philadelphia where he helped to organize the medical department of the Continental Army. His great work was his *Plain Concise, Practical Remarks on the Treatment of Wounds and Fractures*, published 1775, and in the following year with his translation of Van Swieten's *Diseases Incident to Armies*. He settled permanently in Philadelphia in 1780 where he was attending physician of the Pennsylvania Hospital and president of the Humane Society. A friend of Washington, he was Franklin's personal physician, attending him in his last illness.

JONES, John Paul, the first American naval officer to set a tradition of victory, was born within sight and sound of the sea in a rude cottage in the parish of Kirkbean, county of Kirkcudbright, Scotland, July 6, 1747. He died in Paris, July 18, 1792. An indomitable warrior of unique, magnetic personality, he is best known for his triumph in the battle of the *Bonhomme Richard* with the *Serapis*, but this spectacular climax of his career was in keeping with the valor and wisdom of his professional genius throughout his life.

The conditions of his birth, youth, and young manhood contributed to make him a champion of liberty. Named John Paul, he inherited from both his parents, John Paul, Sr., and Jean McDuff, the independence of the Scottish Lowlander and probably, in addition, from his mother the fighting instincts of the Highlander. When only twelve years old, he sailed as a shipboy in a merchantman to Virginia, following the Rappahannock to Fredericksburg, where his older brother William was in business. "America," he was to declare, "has been my favorite country from the age of thirteen when I first saw it."

He early served in merchant vessels, armed ships, perhaps ships of war, and slavers. In practice of his own maxim, "A warrior is always ready," his resourcefulness and skill won for him the position as master of a merchantman, the *John*, at the age of twenty-one.

In command of this vessel at Tobago in the West Indies in 1770, he punished with the cat-o'-nine-tails a negligent carpenter, Mungo Maxwell, who later died from malaria aboard another ship. Jones proved his innocence of the death of Maxwell, but suffered widespread calumny especially in the neighborhood of his Scottish home.

Several years later, at the same island, but in a different ship, the *Betsy*, when a mutineer

wung a bludgeon at him, Jones parried the blow and, in self-defense, killed his assailant. As an admiralty court was not in session at the time in Tobago, he left the island at the close of 1773, with the intention of returning for trial after a suitable period, and with the advice of friends he took, temporarily, an assumed name. According to romantic legend, he now adopted the role of a pirate, commanding a rakish *Black Buccaneer*; but the facts and the spirit of the life of Jones prove the basic falsity of such embellishments.

With only fifty pounds which he had taken with him from Tobago, Jones passed twenty months in obscurity in America, chiefly in Fredericksburg, Va. A tradition assumes he changed his name during this period from John Paul to Paul Jones and John Paul Jones in gratitude to his two brothers, Willie and Allen Jones of North Carolina. No authentic record proves that he ever met either of them or that they served him in any way. Probably after the death of the mutineer he chose for his declared anonymity the common name Jones, which best served his secrecy, and later decided to keep it. Certainly Joseph Hewes, shipowner and signer of the Declaration of Independence, was his greatest early benefactor.

Jones was among the foremost in service at the founding of the Continental Navy. Commissioned in December 1775 as the first lieutenant on the frigate *Alfred*, the flagship of the squadron, on which he hoisted the Continental flag, the old Grand Union, he and another officer, Nicholas Biddle, alone completed the first cruise of the Continental ships with honor.

As captain of the sloop of war *Providence* and as commander of both the *Alfred* and the *Providence*, he captured valuable British merchantmen; he escaped by ruse from ships faster and stronger than his own; he destroyed important fisheries and many vessels. His skill in harrying the enemy with ships of little force stood in such pronounced contrast with the incompetence of Commodore Esek Hopkins that in February, 1777, the Marine Committee directed its secretary, Robert Morris, to place the Continental fleet in his hands, but the jealousy of Hopkins thwarted these orders.

Superseded by many officers, he became, unfairly, the eighteenth captain in naval rank, and he had, in effect, no ship at all. But John Hancock, president of Congress, as well as Robert Morris recognized his abilities. Accordingly on June 14, 1777, he received the independent command of the new sloop of war *Ranger*, one of the first naval vessels to fly the Stars and Stripes, in which he sailed to France with the expectancy of having a large frigate, the *Indien*, for cruises in European waters.

His hopes for the frigate did not materialize, but he was intrepid enough to sail in the small *Ranger* to the very shores of England, and to try to burn the shipping at Whitehaven. At St. Mary's Isle, he attempted, unsuccessfully, to take the earl of Selkirk as a hostage for the exchange of prisoners. In a third attempt, he captured the *Prize* on April 24, 1778. This was the first victory of a Continental vessel over an English ship of war, even in the home waters of the enemy, and was achieved despite his cowardly and mutinous officers and men.

Upon his return to Brest, Jones was keyed to undertake more ambitious enterprises in larger ships. He found, however, at every turn political

and naval entanglements, both French and American. He ultimately appealed to the royal princess of Chartres and King Louis XVI. Even then the *Duras* which he received, (renamed the *Bonhomme Richard* in honor of Benjamin Franklin), was old and slow, ill-suited to fight or escape; the accompanying French vessels of his squadron were privateers in spirit; and an American frigate, the *Alliance*, was in command of the unscrupulous Pierre Landais.

Accordingly, Jones was able to accomplish little for the greater part of the cruise. Off Flamborough Head, the last rendezvous of the squadron, the *Richard* alone pursued and challenged to battle two British ships of war, the *Serapis* of 50, and the *Countess of Scarborough* of 22 guns.

Early in the grim struggle on September 23, 1779, Jones had to fight not only against the superior crew, armament, speed, and qualities in maneuver of the *Serapis*, and against the aid of her consort, the *Countess of Scarborough*, but also against a grave and almost fatal accident. Two of the six old 18-pounders of the *Richard* burst at their first broadside and killed or wounded many men. It became imperative for Jones to outwit Richard Pearson, the captain of the *Serapis*. An initial attempt to board the British frigate and win by sheer desperate fighting failed. In a second supreme effort he managed to lock the two ships together. The *Serapis* was beating in one of the *Richard's* sides, and blowing out the other. Most of the guns of the American ship were broken and silenced. The *Alliance* entered the battle only to fire on the two combatants indiscriminately three separate times. The *Richard* with her dry old timbers was afire again and again. The water in the hold rose ominously. The carpenter, the master gunner, and the master-at-arms became panic-stricken. In the belief that the ship was about to sink, the master-at-arms opened the hatchways and let loose several hundred British prisoners. The gunner, crediting a report that Jones and Lt. Richard Dale had been killed, called to offer surrender of the *Richard*, and Pearson loudly responded, "Do you ask for quarter?" Now Jones made his memorable reply, emphasizing it by hurling his two pistols at the head of the gunner: "I have not yet begun to fight!"

A grenade thrown from the *Richard* caused a disastrous explosion of ammunition on board the *Serapis*. Jones directed a cannonade which made the enemy's mainmast reel. After three and one-half hours of the most heroic battle in full moonlight, the *Serapis* struck her flag. Then Jones and his crew boarded the British ship and saw the *Bonhomme Richard* sink with the stern and mizzenmast uppermost, and with her colors flying.

The escape of Jones in the *Serapis* with his accompanying ships to the Texel in Holland, his conduct in the Dutch port, and his later successful dash in the *Alliance* to the open sea in the face of the British blockade attest not less to his personal honor than to his naval genius. When the French tried to induce him to accept the commission of a French privateersman so as to sail in safety from the port under a neutral flag, Jones replied, using the epithet which his enemies attached to his name, "They are not rich enough to buy 'the pirate of Paul Jones'."

In Paris, where he was sent to arrange for the overdue prize money with which he might

pay his sailors, he was acclaimed by the populace, honored by the king, feted and lionized by society. His dalliance in the French capital, his verse writing, and his romantic attachments for several Parisian ladies make a strange interlude in the doughty seaman's career.

Landais snatched the command of the *Albion* from him at L'Orient, and Jones returned to America in February 1781 in the small *Ariel*. At home, Congress passed resolutions in his honor, recommended the award of a gold medal, and gave him the command of the ship of the line *America*, which, in essence, conferred the rank of rear admiral. The war ending soon, he urged, "In time of peace . . . prepare . . . for war."

The vision of service in the Russian Navy as a rear admiral now rose. He himself described Russia in the time of Catherine the Great as a country of "the dark intrigues and mean subterfuges of Asiatic jealousy and malice." He asserted that he would never renounce the glorious title of a citizen of the United States. But men no less astute than Jefferson and Washington seemed to feel that employment in Russia, in the absence of any at home, would qualify him, in case of need, for higher professional duties in America.

His career in Russia had its prelude in an amazing dash from Sweden to St. Petersburg in April, 1788, so that he might reach the court of Catherine II at the earliest moment. In the Liman, an estuary of the Black Sea, Jones received command of a squadron for a campaign against the Turks, who held the nearby stronghold of Ochakov. He had as his colleague, the arrogant and cowardly Prince Charles Henride Nassau-Siegen; as his superior, the half-mad Trigorí Alexandrovich Potémkin; and as the power behind both of them, the guileful and despotic empress herself. It was the grim dedication of Jones to his professional duties which resulted in victories scarcely less daring and strategic than those in the American Revolution. It was primarily his operations which both saved Kherson and the Crimea, and decided the successful outcome of the war.

While he won the battles, his colleagues usurped the honors. "The first duty of a gentleman is to respect his own character," he wrote in explanation of his aloofness from the deceit which surrounded him. "I saw that I must conquer or die," he stated upon his early recognition of the ineptitude as well as the villainy to which he was exposed. The intrigue against him, both professional and personal, became incredibly fantastic, and included a baseless charge of moral turpitude. Jones left Russia, but he maintained an undue courtesy towards the empress, who, after the use of all her tricks against him, cynically remarked, "I have emptied my bag."

Progressively ill in Paris, where Jefferson sent him a commission, dated June 1, 1792, to ransom our captives in the hands of Algiers, Jones met his only conqueror, death, before its receipt.

Moral courage inspired by reverence for his country, physical boldness derived from a nature inured from youth to hardship and danger, and zeal for perfection in his profession—these qualities combined to make Jones the warrior who rose from obscurity to international eminence. He was outstanding among his more important fellow officers for never losing a ship. He was

unequaled by any one of them for vision and resourcefulness, and for his urgent recommendations for an unmatched American Navy. After lying for a hundred years in an unmarked Paris grave, he has rested in honored distinction in the chapel of the Naval Academy at Annapolis since 1905.

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LINCOLN LORENZ.

JONES, John Percival, American politician: b. Herefordshire, England, Jan. 27, 1829; d. Santa Monica, Calif., Nov. 27, 1912. His parents brought him to the United States in 1831 and settled in northern Ohio. He was educated in the schools of Cleveland and in the early days of California gold mining he journeyed across the Rockies to that State, where he acquired several mining interests and was successful as an operator. He was for a time sheriff of Tuolumne County and in 1863-67 was a member of the State senate. In the latter year he removed to Nevada, where he became a proprietor of the Crown Point silver mine, through which he realized a fortune. He became powerful in State politics through his influence with the miners. He was elected to the United States Senate from Nevada in 1873, was re-elected as a Republican in 1879, 1885 and 1891 and as a "Silverite" in 1897. He was an influential member of the Senate committees on Post Roads and on Mines and Mining, in which field his experience was invaluable. After 1875 he stood forth as a champion of bimetallicism and supported W. J. Bryan in 1896. He returned to the Republican fold in 1900, but held to his free-silver coinage doctrine and retired in 1903.

JONES, John William, American clergyman and author: b. Louisa, Va., Sept. 25, 1836; d. Columbus, Ga., March 17, 1909. He was graduated from the University of Virginia in 1859 and from the Southern Baptist Theological Seminary, and during the war served as private and then chaplain in the Confederate army. He was pastor of a Baptist church in Lexington, Va., 1865-1871, and chaplain of Washington College during Lee's presidency, and since the last-named date was successively agent of various Southern institutions, chaplain of the University of Virginia and pastor of several churches. Besides editing 14 volumes of *Southern Historical Papers*, he published *Personal Reminiscences, Anecdotes and Letters of R. E. Lee* (1874); *Christ in the Camp, or Religion in Lee's Army*; *Memorial Volume of Jefferson Davis*; and *History of the United States*.

JONES, Leonard Augustus, jurist: b. Templeton, Mass., Jan. 13, 1832;

909. He was graduated from Harvard in 1855 and from Harvard Law School in 1858. He was admitted to the Suffolk bar in 1858 and practiced until 1874 when he became associate editor (1874-1904) and later editor (1904-07) of the *American Law Review*. Among his many legal works are *Law of Mortgagees and Real Property* (6th ed., 1904) *Law of Mortgages of Personal Property*, 5th ed. (1908); *Law of Easements* (1898); *Index to Legal Periodical Literature*, 2 vols. (1889); *Legal Forms* (6th ed., rev., 1909); *Real Property*, 2 vols. (1896); *Collateral Securities and Pledges*, 3d. ed. (1912); *Corporate Bonds and Mortgages* 3d ed. (1907); *Landlord and Tenant* (1906). He was appointed judge of the Court of Land Registrations in 1898.

JONES, Lewis Ralph, American botanist: b. Brandon, Wis., Dec. 5, 1864; d. Orlando, Fla., March 31, 1945. In 1883-86 he studied at Ripon College; in 1889 at the University of Michigan. From 1889 to 1910 he was professor of botany at the University of Vermont. After Feb. 1, 1910 he was professor of plant pathology at the University of Wisconsin. He carried out investigations in the laboratory of the Bureau of Plant Industry, Washington, in 1904, and was a collaborator of the Department of Agriculture. He was a member of many botanical societies and the author of botanical reports, bulletins, etc., in scientific magazines. He was editor of the *American Journal of Botany* and of the bacteriological terms of Webster's *New International Dictionary*.

JONES, Sir Lyman Melvin, Canadian capitalist: b. York County, Ontario, Sept. 21, 1843; April 15, 1917. As a youth he entered the employment of A. Harris, Son & Co., agricultural implement makers, Brantford; on the formation of the Massey-Harris Company, Toronto, in 1891, became manager of the consolidated companies, and in 1902 president and general manager. He took a considerable interest in public affairs, and while resident in Winnipeg was mayor of the city (1887-88) and treasurer in the Greenway provincial government 1888-89. He was a Liberal in politics and was called to the senate in 1901, but opposed his party during the reciprocity issue in 1911, and in that year he was sighted.

JONES, Owen, English architect: b. London, Feb. 15, 1809; d. there, April 19, 1874. In 1834 he traveled in Spain and studied the art monuments of Granada, after which he visited Egypt. On returning to England he published his great work on the Alhambra. In 1851 he undertook the decoration of the Crystal Palace at the first Universal Exhibition. He also furnished the various courts of different architecture, notably the "Alhambra Court." His researches and publications had a wonderful influence on the decorative art of England, especially his *Grammar of Ornament*, in which he illustrated the decorative devices of all nations. He published *Plans, Elevations, Sections and Details of the Alhambra* (1845).

JONES, Peter, American Indian missionary: b. Jan. 1, 1802; d. June 29, 1856. His Indian name was Kahkewaquaonaby; his father was a white man of Welsh descent named Augustus Jones, who maintained the closest friendship with Brant during the latter's life. Peter's

mother was Tuhbenahneeguay, daughter of a chief of the Mississauga on Credit River at the extreme western end of Lake Ontario. Peter remained with his tribe, following their customs and accompanying them on their excursions, until his 16th year, when his father, who was then a government surveyor, had him baptized by an English Episcopal minister. Having professed religion at a camp meeting held near Ancaster, Ontario, and taken an active part in the religious exercises of the Wesleyan Methodist Church, Peter was sent on a missionary tour, in 1827, to Lake Simcoe and other points in western Ontario, although not yet ordained. He had by this time entered on his literary work, as in this year was published a hymnbook translated by him into Chippewa. He was constituted a Wesleyan Methodist minister at the Toronto Conference of 1833. The remainder of his life was devoted chiefly to missionary work among the Mississauga and Chippewa, and to some extent among the Iroquois. His position as a Christian pastor and ruling chief of his tribe gave him great influence, not only among his own people, but among all the Chippewa tribes. He visited England and New York and made repeated journeys in behalf of his people. It was largely through his efforts that the titles of the Credit Indians to their land were perfected. A monument was erected to his memory, in 1887, at Brantford. In addition to the above-mentioned volume of hymns, Jones was author of *An Ojibway Spelling Book* (1828); translation of part of the New Testament (1829); *The First Book of Moses* (1835). He also wrote *Life and Journals of Kah-ke-wa-quo-na-by* (Rev. Peter Jones) (1860); and *History of the Ojibway Indians* (1861). Consult Pilling, *Bibliography Algonquian, Lang, Bull.* B.A.E. (1891).

JONES, Samuel Porter, commonly known as SAM JONES, American Methodist revival preacher: b. Chambers County, Ala., Oct. 16, 1847; d. Oct. 15, 1906. He was admitted to the Georgia bar in 1869 and practiced successfully for a time. His drinking habits put an end to his career as a lawyer. Becoming converted in 1872 he was admitted to the ministry of the Methodist Church South, and afterward devoted himself to evangelistic work, his marked eccentricities of speech and manner probably contributing somewhat to his popularity. His works include *Famous Stories of Sam P. Jones* (1908); *Popular Lectures of Sam P. Jones* (1909); *Sam Jones's Revival Sermons* (1912); *Lightning Flashes and Thunderbolts* (1912).

JONES, Thomas, American lawyer: b. Fort Neck, Long Island, April 30, 1731; d. Haddesdon, England, July 25, 1792. In 1750 he was graduated at Yale and in 1755 was licensed to practice law. In 1757 he was appointed clerk of Queens County (N.Y.) courts and for many years was attorney for the governors of King's College (now Columbia University). In 1769 he became recorder of New York City, retaining that office until 1773, when he was made judge of the Supreme Court in place of his father, serving until the close of the Revolutionary War, and held the last court under the crown at White Plains in April 1776. On June 27, 1776 he was arrested at the instance of the New York Provincial Congress for refusing to

obey the summons of the committee to show why he "should be considered a friend of the American cause." He was paroled but was rearrested on August 11, was detained a prisoner in Connecticut until December when he was paroled a second time. He was carried off a second time to Connecticut in 1779 and in April 1780 was exchanged for Gen. Gold S. Silliman. He went to England in 1781. The negotiations for peace in 1782 prevented his return, as he was included in the New York act of attainder, by which his life was *ipso facto* forfeited and his estate confiscated.

JONES, Thomas ap Catesby, American naval officer: b. Westmoreland County, Va., April 24, 1790; d. Fairfax County, Va., May 30, 1858. Having entered the navy in 1805, he was employed in suppressing piracy, smuggling and the slave trade in the Gulf of Mexico, and saw service in the latter part of the War of 1812 when with a squadron of five gunboats he tried to bar the passage across Lake Borgne to Vice Admiral Alexander Cochrane and his fleet. He inflicted losses on the British and was himself seriously wounded before his vessels were captured. In 1826 he was sent to the Hawaiian Islands to settle the difficulties arising through the efforts of a local party to make the islands a British dependency. Jones secured the payment of debts claimed by American citizens, presided over a meeting of the factions, and denied publicly the assertion of the British consul that the islands were a British dependency. While in command of the Pacific squadron in 1842, believing that war had been declared between Mexico and the United States, he landed at Monterey, California, and took possession in the name of the United States. Because of this imprudence he was removed temporarily from his command, but was later restored to it. He was suspended from the service in 1850 for using a fund for an unauthorized purpose, was reinstated in 1853, and placed in the reserved list in 1855.

JONES, Wesley Livsey, American legislator: b. near Bethany, Ill., Oct. 9, 1863; d. Seattle, Wash., Nov. 19, 1932. He was graduated at Southern Illinois College in 1886 and in the same year was admitted to the bar. He moved to the Territory of Washington in 1888, just before its admission to statehood, and settled at North Yakima, where he lived until 1917, when he moved to Seattle. From 1899 to 1909 Jones was a Republican member of Congress at large from Washington. In 1908 he was elected United States senator, being re-elected in 1914, 1920, and 1926, but was defeated in the elections of 1932 shortly before his death.

Jones was generally conservative and isolationist, with a strong interest in the merchant marine. He was sponsor of the Jones-Stalker law (1929) which increased the penalties of the Volstead Act.

JONES, William, American ethnologist: b. Sac and Fox Indian Reservation (in what is now Oklahoma), March 28, 1871; d. Philippine Islands, March 29, 1909. One of his great-grandfathers was Wa-shi-ho-wa, a Fox chief. Jones was brought up by his grandmother on the Fox and Sac Reservation. He was educated at Hampton Institute, Phillips Andover Academy and Harvard University, being graduated at the

last-named institution in 1900. From Columbia he obtained the degree of Ph.D. in 1904. He was employed by the American Museum of Natural History and the Bureau of American Ethnology to collect ethnological specimens of the Sac, Fox and Ojibwa tribes. He was a noted Indian linguist. From 1906 he was employed by the Field Columbian Museum of Chicago in the Philippines, where he lost his life in an attack by the Ilongots.

JONES, Sir William, English Orientalist and jurist: b. London, Sept. 28, 1746; d. Calcutta, April 27, 1794. He was educated at Harrow and Oxford and early acquired a reputation as a linguist, Hebrew, Persian, Arabic, and even Chinese, besides German, Italian, French, Spanish and Portuguese, being among his acquisitions. In 1770 his translation (in French) of the life of Nadir Shah from the Persian appeared; in 1771 his grammar of the Persian language; in 1774 his *Poeseos Asiaticae Commentariorum Libri Sex*, and in 1783 his translation of the seven Arabic poems known as the *Moallakat*; besides many other translations and works on Oriental literature, philology, and philosophy. He was also noted as a legal writer and was the author of an essay *On the Law of Bailments* (1781). Jones had been called to the bar in 1774 and in 1783 was nominated judge in the Supreme Court of Judicature, Bengal, and knighted. Here he did much for the furtherance of Oriental studies, being one of the first Europeans to study Sanskrit, and founding the Bengal Asiatic Society in 1784.

JONESBORO, jōnz'būr-ō, city, Arkansas; seat of Craighead County; altitude 300 feet. It is situated 67 miles north-northwest of Memphis, Tenn., and is served by the Missouri Pacific (nearby at Nettleton), the St. Louis Southwestern, and the St. Louis-San Francisco railroads. It has an airport with regular airline service. Jonesboro is a trading center for the surrounding agricultural region, which produces cotton, corn, rice, and livestock. Manufactures include glass, handles, shoes, and baskets; there are also rice mills and stockyards. Jonesboro has public library facilities, two radio stations, a hospital, and is the seat of Arkansas State College (coeducational), founded in 1909. The surrounding country is noted for its hunting and fishing. Named for William A. Jones, the city was founded in 1859, and incorporated in 1883. Government is by mayor and council. Pop. (1950) 16,310.

JONESBORO, city, Georgia; seat of Clayton County; altitude 920 feet. It is situated 17 miles south-southeast of Atlanta and is served by the Central of Georgia Railway. It is largely a residential city. Cotton, corn, and grains are grown in the surrounding country, and Jonesboro has sawmills and a cotton gin. Two miles north is the so-called Fair of 1850, an historical museum housed in a reconstructed southern home; the collection illustrates the weapons, agriculture, religion, industries, and other activities of the South of 1850. There is also an historical museum on the Civil War battlefield here (see JONESBORO, BATTLE OF, AND FALL OF ATLANTA). Jonesboro was settled in 1823 and incorporated in 1859. Pop. (1950) 1,741.

JONESBORO, town, Louisiana; seat of

Jackson Parish; altitude 210 feet. It is situated 41 miles west-southwest of Monroe, in an agricultural region growing cotton, corn, poultry, and potatoes, and having truck gardens. Jonesboro is served by the Chicago, Rock Island and Pacific Railroad. It has lumber mills, manufactures of wood products, and cotton gins. Pop. (1950) 3,097.

JONESBORO, town, Tennessee; seat of Washington County; altitude 1,692 feet. It is situated 7 miles west of Johnson City, and is served by the Southern Railway. Pop. (1950) 1,126.

Jonesboro is the oldest town in Tennessee, formally founded Nov. 4, 1779, as the seat of Washington County, North Carolina; the county then comprising all of present-day Tennessee. Upon the cession of this territory by North Carolina to the United States in 1784, the settlers of the Watauga Association (q.v.) assembled in Jonesboro in August and December of 1784 and organized the State of Franklin (see FRANKLIN, STATE OF). The first legislative sessions of the short-lived state were also held in Jonesboro, until 1785 when its capital was established at Greeneville.

JONESBORO, Battle of, and Fall of Atlanta. After the battle of Ezra Church (q.v.), July 28, 1864, Gen. William T. Sherman, unable fully to invest Atlanta, drew the 14th Corps and Gen. John Schofield's Army of the Ohio from the left and extended his lines on the right nearly to East Point, about six miles below Atlanta, the junction of the two railroads leading from the city, upon which the city and Gen. John Bell Hood's army depended for supplies. Hood made corresponding movement to cover the roads, meeting Sherman's advance with strong, well-entrenched lines, and, August 6, severely handling two of Schofield's brigades that had crossed Utoy Creek, killing and wounding over 300 men and losing two colors.

To compel Sherman to relinquish his movement and raise the siege of Atlanta, Hood, August 10, sent Gen. Joseph Wheeler with about 900 cavalry to operate upon his line of communication with Nashville. Wheeler moved promptly, struck and destroyed the railroad near Marietta, Calhoun, Adairsville and Dalton, captured over 1,000 head of beef cattle and other supplies, and, after demonstrating on Dalton and Marietta, was driven into East Tennessee.

Sherman had issued an order, August 16, for general movement on the 18th upon the West Point and Macon railroads, for the purpose of forcing Hood from Atlanta, but hearing of Wheeler's raid, he suspended the order and directed Gen. Hugh Judson Kilpatrick, with 5,000 cavalry, to move on the night of the 18th against the West Point and Macon roads and destroy them completely. Kilpatrick started from near Marietta, crossed the West Point road at Fairburn and struck the Macon road a short distance north of Jonesboro, some 26 miles from Atlanta, where he encountered Ross' brigade of cavalry, which was driven through Jonesboro. But little of the railroad had been destroyed when Gen. William Hicks Jackson's brigade of cavalry and an infantry brigade, coming up from the south, compelled Kilpatrick to retreat. Making a circuit, he again struck the railroad at Lovejoy's, about six miles south of Jonesboro, and encoun-

tered a Confederate force, through which he cut his way and reached Decatur, near Atlanta, on the 22d.

As Sherman was satisfied that Kilpatrick had not greatly damaged the railroad, he renewed his order for the movement of the whole army. On the night of the 25th the siege of Atlanta was raised. The sick and wounded, spare artillery and surplus transportation were sent back to the Chattahoochee bridge; Gen. David Sloane Stanley's 4th Corps drew out from the left and moved to the right, closing up with the 14th Corps near Utoy, and the 20th Corps fell back to an entrenched position covering the Chattahoochee bridge and the hospitals. On the night of the 26th the Army of the Tennessee (Gen. Oliver Otis Howard) drew out, rapidly made a wide circuit and came up on the right of the Army of the Cumberland, under Gen. George Henry Thomas, along Utoy Creek, facing south. The Army of the Ohio remained in position, now on the extreme left. On the 28th, making a general left wheel, pivoting on Schofield's army, both Thomas and Howard reached the West Point road extending from East Point to Red Oak and Fairburn, Schofield closing in upon the left of Thomas, but a short distance from the Confederate works covering the junction of the road at East Point.

The next day was devoted to the railroad, of which nearly 13 miles was destroyed, and on the 30th the entire army moved eastward for the Macon Railroad. Schofield, on the left, approached it near Rough and Ready, and presented a bold front toward East Point; Thomas, in the center, reached Couch's, on the Fayetteville and Decatur road, with but little opposition; and Howard, on the right, driving before him the enemy's cavalry, saved the bridge over Flint River after a sharp engagement; then, crossing part of his command, halted at night within half a mile of Jonesboro. On the morning of the 31st Howard, finding himself in the presence of a large force, disposed the Army of the Tennessee for battle and entrenched, Gen. John A. Logan's 15th Corps on the left, Gen. Thomas E. G. Ransom's 16th Corps on the right and Gen. Francis P. Blair's 17th Corps in rear of Logan's left.

When Sherman began his movement on the night of the 25th, Gen. Stephen D. Lee's corps of Hood's army covered the railroad from near Atlanta to a place nearly a mile south of East Point. Gen. William J. Hardee's corps was on Lee's left, while Hood held Atlanta with Gen. Alexander T. Stewart's corps and the Georgia militia. Hood had been deceived; he knew of Sherman's earlier movement, but misinterpreted it as preliminary to a retreat across the Chattahoochee; but when undeceived on the 30th, he ordered Hardee with his own corps and Lee's to move rapidly to Jonesboro and crush Howard on the morning of the 31st. Hardee, who was near Rough and Ready, four miles below East Point, began moving about 4 P.M., followed later by Lee, and at noon of the 31st both were in Howard's front. At 3 P.M. Hardee attacked with Lee's corps, and part of his own, under Gen. Patrick R. Cleburne, with the expectation of driving Howard into the river, and for two hours the fighting was severe, but Hardee was repulsed. Lee, who, on the Confederate side, bore the brunt of the fight, says: "The attack was a feeble one and a failure, with a loss to my corps of about 1,300 men killed and wounded." Hardee's entire

loss was about 1,700. The Union loss was 179 killed and wounded, almost entirely of Logan's corps.

When Sherman heard the noise of this battle he was with Thomas, who, with Schofield, had reached and was destroying the road from Rough and Ready southward. Thomas and Schofield were marched to the assistance of Howard, and Kilpatrick was sent down the western bank of the Flint to strike the road south of Jonesboro. Gen. Jefferson Columbus Davis' 14th Corps joined Howard's left at noon of September 1, relieving Blair, who was disposed to support Kilpatrick. Lee's corps had gone, but Hardee's was still in position and entrenched, covering Jonesboro on the north. At 4 P.M. Davis charged Hardee's works and, after a hard fight, carried parts of them, capturing Gen. Daniel C. Govan and the greater part of his brigade and two batteries of four guns each. Stanley and Schofield reached the field too late to take part in the engagement. During the night Hardee retreated to Lovejoy's Station, and next morning Sherman started in pursuit. The Union loss September 1 was 223 killed, 946 wounded and 105 missing. The Confederate loss is not fully known; of the three divisions engaged Cleburne's sustained a loss of 55 killed, 197 wounded and 659 missing. There is no return of losses in the other two divisions.

The result of the battle of Jonesboro was the fall of Atlanta. Six hours before Hood heard of the result of Hardee's attack, August 31, he sent an order to Lee to return in the direction of Atlanta, to make a movement on Sherman's flank or to cover the evacuation of the city. Lee received the order at midnight, and was halted next morning about six miles from Atlanta. Meanwhile Hood had heard of the result of Hardee's attack; its "failure necessitated the evacuation of Atlanta." Lee was ordered to join Hardee, which he did on the 2d, and at 5 P.M. of the 1st Hood marched out of the city with Stewart's corps on the McDonough road; the Georgia militia was sent to Covington, and at night the rear guard blew up some abandoned ammunition trains. Gen. Henry W. Slocum's 20th Corps entered the city on the morning of the 2d. Sherman received the news on the 4th, and, turning his back on the Confederates at Lovejoy's, marched his army to East Point and Atlanta.

Union losses in the entire campaign were 4,423 killed, 22,822 wounded and 4,442 missing, a grand aggregate of 31,687. The Confederate losses were 3,044 killed and 18,952 wounded. Added to this the number of prisoners captured, 12,938, makes a grand aggregate of 34,979.

Consult Bowman, S. M., *Sherman and His Campaigns* (Cincinnati 1865); Sherman, W. T., *Personal Memoirs* (New York 1875); Johnson, R. U., and Buel, C. C., *Battles and Leaders of the Civil War* (New York 1884-1888).

JONGEN, yóng'ên, Joseph, Belgian composer: b. Liège, Dec. 14, 1873. He studied in the conservatory at Liège, and in 1897 won the Belgian Prix de Rome with his cantata *Comala*, and studied abroad.

Jongen's compositions include the symphonic poems *Lalla Roukh* (1903) and *Impressions d'Ardennes* (1913); the ballet *S'Arka* (1912); the opera *Jélyane* (1907-1916); and cantatas and much chamber music.

JONGKIND, yóng'kint, Johan Barthold,

Dutch landscape painter and etcher: b. Lattrop, near Rotterdam, June 3, 1819; d. Côte-Saint-André, Isère, France, Feb. 9, 1891. He studied under Andreas Schelfhout in The Hague, and in 1846 moved to Paris where he studied under Jean Baptiste Isabey and François Édouard Picot. After living in the Netherlands, 1855-1860, he returned to Paris, and in 1878 settled at Côte-Saint-André.

Jongkind's subjects are chiefly the banks of rivers, particularly the Seine, Dutch canals, sea-coasts, and the old streets of Paris. He is noted for his moonlight scenes. His studies of the fleeting effects of light, to which he brought the traditional Dutch feeling, make Jongkind a link between impressionism and the earlier naturalism. Such leaders of the impressionistic school as Claude Monet, Camille Pissarro, and Alfred Sisley were his students.

JONGLEUR DE NOTRE-DAME, zhōng-lūr' dê nō-trê-dām', Le (THE JUGGLER OF OUR LADY), an operatic miracle play in three acts by Jules Massenet, libretto by Maurice Léna. It was first produced at Monte Carlo on Feb. 18, 1902; in New York, on Nov. 27, 1908. The story is based on one of the short stories from *Étui de nacre* (1892) by Anatole France, which was a rendering of a medieval legend.

The scene is laid at Cluny; the time, the Middle Ages. A poor young street mountebank, Jean, amuses the villagers with his tricks in front of the monastery. The prior of the abbey threatens him with eternal punishment for his ungodly trade and advises him to enter the monastery, which the boy agrees to do. Anxious to do something to please the Holy Virgin, he bemoans his inability to the cook, Boniface, who tells him a fable, *The Legend of the Sage-Brush* and assures him that every sincere offering meets with divine acceptance. In the final scene the young novice stands before the altar in the chapel, having doffed his monk's garb and resumed that of his old trade. Standing before the image of the Virgin he performs his street tricks and is surprised in this occupation by the entrance of the prior and the monks, horrified at the act of sacrilege. They attempt to seize and throw him out when the figure of the Virgin assumes life and blesses him. He falls back dying and happy.

JONKOPING, yún'chū-ping, city, Sweden: capital of Jönköping Province; 80 miles east of Göteborg. The city is beautifully situated in a valley between the southern end of Lake Vättern and two smaller lakes, and is backed by pine-clad hills. The chief building is the church of Saint Christina. The manufacturing industries of the town are of considerable importance; the largest single industry is match making, the safety matches made here being used throughout the world. There are also manufactures of machinery and arms, textiles, and paper and woodpulp. The maritime trade was greatly increased by the completion of the Göta Canal in 1832, connecting the Baltic and North seas (Göteborg with Stockholm), thus making Jönköping a seaport.

The town's record goes back to legendary times. It is named in history in the early part of the 13th century, and in 1284 received its town charter. In 1357, 1439 and 1599 Parliament met here. In 1448 occurred the conference of the Swedish and Danish plenipotentiaries. The town was destroyed in 1612

by order of Gustavus Adolphus to prevent it from falling into the hands of the Danes, but was soon afterward rebuilt; and in 1809 a peace treaty was signed here between Denmark and Sweden. Pop. (1947) 41,428.

JONQUIERE, zhôn-kyâr', Canada, town in Chicoutimi County, Quebec, 8 miles west of Chicoutimi, on the Canadian National Railway. It contains sash and door factories, planing mills, pulp and paper factories, foundries, and a furniture factory. Pop. (1941) 13,769.

JONQUIL, jông'kwil. See NARCISSUS.

JONSON, Ben (in full BENJAMIN), English playwright and poet: b. in or near London, 1572, probably June 11; d. London, Aug. 6, 1637. Of Border descent, his father had lost his estate under Queen Mary, turned minister of the Gospel, and died a month before Ben's birth; of his mother little is known except that she took as second husband a master bricklayer. The young Jonson lived in the neighborhood of Charing Cross and attended "a private school in St. Martin's Church." He was then provided by an unidentified friend with means to attend Westminster where he studied under William Camden. About 1589 he was put into the craft of his stepfather, an occupation which he found far from his liking. Consequently he took arms as a hunter in Flanders, challenged an enemy to single combat in the face of both camps, killed him, and stripped him of his arms. Returning to London, he threw in his lot with the theater, first as actor and later as apprentice playwright. In 1595 he had married, and a year later the first of his three children, none of whom were to survive him, was born.

Jonson's known literary career began when he wrote a satiric comedy by Thomas Nash, *The Isle of Dogs*, presented in the summer of 1597. The play gave offense, and the actors including Jonson were arrested and imprisoned by order of the Privy Council; they were released in October, but this was not the last time Jonson clashed with authority. In the same year, Jonson was in the employ of Philip Henslowe. Plays for Henslowe, or others, included: perhaps the first version of *A Tale of a Tub*; *The Case Is Altered*, probably 1597-1598; and some unknown by name. In the fall of 1598, Francis Meres lists Jonson, surprisingly enough, among the writers best for comedy.

The year 1598, indeed, was an important one for Jonson; it marked the real beginning of his success as a dramatist and almost brought it to an abrupt conclusion. In September his comedy, *Every Man in His Humour* (q.v.), was performed by the Lord Chamberlain's Company; it was the first of his plays to receive signal applause and the first which he chose for preservation.

A few days later he engaged in a duel with one of Henslowe's actors, Gabriel Spencer, was wounded in the arm, but killed his opponent. Arrested and tried at the Old Bailey, he escaped with his life only by pleading benefit of clergy. Upon dismissal he was branded on the thumb as a felon, and his goods were confiscated. During his incarceration he became a Roman Catholic. Despite his narrow escape, Jonson's critical arrogance soon precipitated new quarrels. His *Every Man Out of His Humour* (1599), a "comical satire" for Shakespeare's company,

though not a success, made fun of the "fustian" diction of the poet-playwright, John Marston, who retorted in kind. *Cynthia's Revels* (1600), Jonson's mythological satire of court affectations for the Children of the Chapel, added Thomas Dekker to the comradeship of Marston, and *Poetaster* (1601), also for the Children, continued the assault. Dekker's hearty laughter, in his *Satiromastix* (1601), at a man who took himself too seriously, brought to a close the so-called "war of the theatres." It is clear that the clash was temperamental and fanned by the rivalry between the various companies for which Jonson wrote. Jonson had collaborated with Dekker and others in 1599 on two tragedies now lost, for the Admiral's Company. In 1602 he wrote a historical play and "additions," also for Henslowe, to Thomas Kyd's *Spanish Tragedy*, a play in which he had acted years before. Nevertheless, *Poetaster* offended many people who saw themselves or their professions ridiculed, and his *Apologetical Dialogue* was in itself offensive. In it Jonson announced that since his comedies had "proved so ominous," he would try "If Tragoedie have a more kind aspect."

Jonson's vigorous contentiousness as well as his great artistic gifts brought him, however, staunch friends as well as enemies. Early in 1602 he was living with Sir Robert Townshend, and a bit later with Esmé Stuart, lord of Aubigny and future duke of Lennox, whose hospitality he enjoyed for some years. Though his grave tragedy, *Sejanus*, produced by Shakespeare's company in 1603, was rejected by audiences, the accession of James I brought new ones. In August he provided an entertainment for the queen and the prince at Althorpe, and he and Dekker wrote the speeches for James' formal entry into the city in March 1604; in May he assisted Sir William Cornwallis in entertaining royalty at Highgate; and *The Masque of Blackness* for the Christmas festivities of 1604-1605, on which he collaborated with Inigo Jones, was the first of a long series of court successes in the masque form, which he was to develop and dignify. About this time, too, he established himself at the Mermaid Tavern as the leading spirit of a convivial group of wits and writers which included Shakespeare and Francis Beaumont.

On the other hand, two events could well have proved disastrous. The earl of Northumberland had not taken well Jonson's chastisement of one of his servants and summoned him before the Privy Council on the accusation of "popery and treason." Evidently Jonson's friends interceded. In 1604 he was in trouble again. With Marston and George Chapman, Jonson collaborated on a comedy, *Eastward Ho*, which contained incidentally some satire on the Scots. It speaks well for Jonson that when his fellow authors were imprisoned, he voluntarily joined them. Despite the rumor that they should have "their ears cutt & noses," Jonson and his collaborators, seconded again by powerful friends, escaped unscathed. Indeed, in November of 1605, Jonson was even employed by the Privy Council in obtaining evidence about the Gunpowder Plot.

The next ten years were probably Jonson's happiest and certainly the most fruitful and rewarding. His great comedy, *Volpone, or The Fox* (q.v.), produced by the King's Men in 1606, was so outstanding a success that it was presented also at Oxford and Cambridge. In the realm of courtly entertainment, *Hymenaei* (1605)

was succeeded by *Hue and Cry* after *Cupid* (1608), both for weddings; *The Masque of Beauty* (1608) and *The Masque of Queens* (1609). The last year saw too the laughable comedy, *Epicoene, or the Silent Woman* (q.v.), for the Children at Whitefriars, and 1610, perhaps his greatest, *The Alchemist* (q.v.), for the King's Men. About this time Jonson returned to the Church of England. Another attempt at tragedy for the King's Men, *Catiline* (1611), proved a failure, but the vigorous comedy, *Bartholomew Fair*, produced by the Lady Elizabeth's Company in 1614, was a brilliant success. Meanwhile the masques continued. In 1613, Jonson visited France, acting as tutor to the son of Sir Walter Raleigh. Already he had probably begun to plan the collection and publication of those writings which he thought worthy of posterity; the *Workes* appeared in folio in 1616, a monument for which posterity is grateful, despite the contemporary laughter which greeted his self-assurance.

Jonson was now at the height of his fame, but except for the somewhat perfunctory *The Devil Is an Ass* (1616), he wrote nothing for the public stage for nine years. With many friends, noble and literary, with a pension from James and other incidental rewards, recognized by the two universities, Jonson was free to devote his time to various other pursuits, poetic, scholarly, and pleasurable. In 1618 he undertook a pedestrian expedition to Scotland, where he was entertained by many and notably by the poet, William Drummond of Hawthornden, who has preserved his conversation and many biographical details. Welcomed on his return by the king, holding high court in the Devil Tavern, formally inducted honorary master of arts by Oxford University as a man of distinguished learning in humane letters, he was widely recognized as the foremost literary figure in England.

The succeeding years, however, were not so bright. In 1623 his library was destroyed by fire and along with it much work projected or partially completed. Less than two years later King James was dead, and it became clear that Charles I preferred the type of court masque which put Inigo Jones' spectacle over Jonson's poetry. Jonson perforce returned to the stage, this time with another comedy, *The Staple of News* (1626), a success at Blackfriars and at court. It was at the same time the beginning of the decline of his powers.

For the first five winters of the new reign, Jonson was not invited to prepare masques for the court. His financial resources were embarrassed. In 1628 his huge bulk was stricken with paralysis, and his next play, *The New Inn*, written from a sickbed and performed early in 1629 by the King's Company, was damned. Jonson's pecuniary difficulties were somewhat relieved by his appointment as city chronologer, and later by gifts from Charles and an increase in his pension, but his call to join with Jones in masques at court in 1631 caused a quarrel with Jones which ended Jonson's participation. His *Magnetic Lady* (1632), presented by the King's Men, was clearly not by the Jonson of old, and enemies sneered, Jones among them. Jonson retorted with a caricature of Jones in *A Tale of a Tub* (1633), a revision of a much earlier work, which was first censored and even then "not like" at court.

Confined now to his bed in his house in West-

minster, Jonson was able to produce little more. He read prodigiously, made notes which were preserved in his *Discoveries*, devised a couple of masques for the duke of Newcastle, and wrote part of a pastoral play, *The Sad Shepherd*, never completed. His friends flocked around him, and there is evidence of a kind of restoration to the favor of the king. Nevertheless he was in debt when he died on Aug. 6, 1637. Three days later, attended by a great throng of admirers, he was buried in the Poet's Corner of Westminster Abbey. A memorial volume, *Jonsonus Viribus*, appeared the following March, but the monument planned was doomed by the impending war. A square flagstone inscribed "O rare Ben Jonson," at the request of a friend, has since disappeared.

The apparently paradoxical elements in Jonson's character were united by the driving forces which determined his life and opinions. He was Latinist and duelist, Catholic and Protestant, a classicist of marked unrestraint, self-important but generous to those he loved and admired, serious in his convictions but free in jest and gullery. Yet in all he did there was a combative vigor and honesty. He did not suffer fools gladly, and he sometimes confused fools with those who disagreed with him or disliked his assertiveness. But there was nothing puny about Jonson. His reactions were as strong as his critical opinions, which he held to be valuable and demonstrable; if his pronouncements seemed Olympian, he had some reason to be confident. It is characteristic of him that though they disagreed and frequently clashed, he managed to work with Jones for years; that he could ridicule Marston and Dekker, and then shortly collaborate with them; that he could criticize Shakespeare, and yet

... confesse thy writings to be such,
As neither Man, nor Muse can praise too much.

The rounded character of Jonson's genius made him scholar, critic, poet, masque writer, and dramatist—in short, a genuine man of letters. Some of his translations and studies burned with his library, but he left a translation of Horace's *Art of Poetry* and an *English Grammar*. Thirty-six of his masques and entertainments remain to illustrate the nicety of his taste and the fertility of his invention; Jonson indeed brought the masque to its highest point of perfection. His nondramatic poetry, chiseled in its precision, now outspokenly direct, now lyrically graceful, is largely contained in *The Epigrams*, *The Forest*, and *Underwoods*.

But it was as critic and playwright that Jonson made his most distinguished contribution both to his own day and to the future. He was at once classicist, realist, and satirist. The Elizabethan drama which flowered in John Lyly and Robert Greene, in Thomas Kyd and Christopher Marlowe, and in Shakespeare, had elements of all these tendencies, but remained essentially romantic in its exuberance, its variety, and its violation of the so-called classical rules. Jonson, critic before artist, was conscious of apparent formlessness and individual caprice, of incongruity both in aim and material. He insisted on the high dignity of literature, on the acceptance of classical precept and example, on standards and detailed workmanship. His textbooks were Aristotle and Horace; his method, the judicious adaptation of precedent to current needs.

In tragedy, Jonson strove for "truth of Argument, dignity of Persons, gravity and height of diction, fullness and frequency of Sentence."

In comedy Jonson's method was the development from the physiological theory of humours of a new satirical comedy. According to this theory, temperament and behavior were determined by the predominance of one or more of the bodily fluids. A proper mingling made a proper man; a disproportion determined his special bent or characteristics. A "humorous" man, then, is an unbalanced one and a subject for corrective satire. Jonson's best comedies are all adaptations with various modifications of these ideas. Not only do characters become types, at their best universal and allied to those of classical comedy though adapted to present observation, but supersede plot in importance; plot becomes the means for providing situations in which humours may be exhibited in action and dialogue. In *Volpone*, *Epicoene*, *The Alchemist*, and *Bartholomew Fair*, Jonson shows his foibles with joyous comic resource, and these plays are among the finest achievements of English comedy.

Jonson's masques have lost interest to any professed specialists; his translations and scholarship have been superseded; only a few of his poems are preserved in anthologies, or read sung today; his criticism is valuable, but has been absorbed into the great body of literary judgment and taste. Much of what he wrote is of his age and of a great age. But Jonson, a man of letters, remains in his comedies. They had enormous influence on the drama; they are studied in colleges and universities as examples of high comic art and brilliant dramaturgy; and they are frequently revived on both the amateur and the professional stage. They are a permanent heritage of the modern world in "rare Ben Jonson."

Bibliography.—The standard edition is the monumental *Ben Jonson*, edited by C. H. Herford and Percy D. Evelyn Simpson, 11 vols. (Oxford 1925). This contains Jonson's complete works with critical apparatus, and two volumes on his life and writings. The plays have been often edited and are conveniently accessible elsewhere, in, for example, various volumes of the *Yale Studies in English*, and the *Mermaid Series*, edited by Nicholson, 3 vols. (London 1893-1895). An account of Jonson and his work, intermediate in fullness between Herford-Simpson and the present one, may be found in M. Parrott and R. H. Ball, *A Short View of Elizabethan Drama* (New York 1943). For bibliography consult S. A. Greenbaum, *Ben Jonson: A Concise Bibliography* (New York 1938; Supplement, 1947).

Special studies and criticism include: Woodbridge, E., *Studies in Jonson's Comedy* (Boston 1898); Castelain, M., *Ben Jonson, l'Homme et l'Oeuvre* (Paris 1907); Baeker, C. R., *English Elements in Jonson's Early Comedy* (Austin, Texas, 1911); Kerr, M., *Influence of Ben Jonson on English Comedy, 1598-1642* (New York 1912); Palmer, *Ben Jonson* (London 1934); Noyes, R. G., *Ben Jonson in the English Stage, 1600-1776* (Cambridge 1935); Wright, L. C., *Drama and Society in the Age of Jonson* (London 1937); Bentley, G. E., *Shakespeare and Jonson: Their Reputations in the Seventeenth Century Compared*, 2 vols. (Chicago 1945); Baum, H. W., *The Satiric and Indiscreet in Ben Jonson's Comedy* (Chapel Hill 1947); Townsend, F. L., *Apologies for Bartholomew Fair: The First of Jonson's Comedies* (New York 1947).

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JOPLIN, Mo., city and Jasper County seat, alt. 979 feet, on the Missouri Pacific; Missouri and Arkansas; Kansas City Southern; Missouri-Kansas-Texas; Atchison, Topeka, and Santa Fe; and St. Louis and San Francisco railroads; on both state and federal highways, 150m. S. of

Kansas City. Lead and zinc mining and smelting are its principal industrial interests. Manufactures include mining machinery, cigars, and explosives. Joplin has a public library with two branches; a mineral museum; a radio station; two hospitals; and a municipal airport. The town was named for the Rev. Harris G. Joplin, a Methodist home missionary; he was the first permanent settler, in 1839. In 1848 the mining of lead was begun, and in 1860, exploitation of the county's rich resources in zinc. After a struggle with neighboring towns, the City of Joplin was chartered in 1874; plans originally were to incorporate it and Murphysburg as Union City. With the growth of mining competition by Oklahoma, Joplin branched out with a more diversified industrial program. Municipal government was placed under the administration of a commission in 1914. Pop. (1940) 37,144; (1950) 38,711.

JOPPA. See **JAFFA**.

JORAM. See **JEHORAM**.

JORDAENS, yôr'dâns, Jacob, Flemish painter: b. Antwerp, May 19, 1593; d. there, Oct. 18, 1678. From his early boyhood in 1607 he was the pupil of Adam van Noort, whose daughter he afterward married, and in 1615 was made master in the Guild of Saint Luke at Antwerp. He was the most eminent painter of the Flemish school next to Rubens, to whom, however, he was inferior in force and conception. The most renowned among his religious pictures are *The Last Supper* in the Antwerp Museum; and *The Martyrdom of Saint Apollonia* in the church of the Augustines, Antwerp.

Consult Rooses, Max, *J. Jordaens, His Life and Work* (English tr., 1908).

JORDAN, Camille, French politician: b. Lyon, Jan. 11, 1771; d. Paris, May 19, 1821. He was a pupil of the Oratorians at Lyon and when still young became imbued with royalist principles, later developing into an active opponent of the French Revolution. When only 20 years of age he published a pamphlet satirizing the Constitutional Church, entitled *Histoire de la conversion d'une dame parisienne* (1792). When Lyon fell in October 1793, Jordan was proscribed by the Directory for his participation in the insurrection and fled to Switzerland, subsequently passing six months in England. In 1796 he returned to France and in 1797 was sent by Lyon to the Council of Five Hundred. In the Revolution of Sept. 4, 1797, Jordan escaped to Basel and later went to Germany where he met Goethe. In 1800 he returned and in 1802 exposed the schemes of Bonaparte in a pamphlet *Le vrai Sens du Vote National pour le Consulat à Vie*. From that time till 1814 he devoted his time in retirement to literature, but at the Restoration was made a councilor of state by Louis XVIII, and from 1816 till his death represented the Department of Ain in the Chamber of Deputies.

JORDAN, jôr'd'n, Conrad N., American financier: b. New York, April 20, 1830; d. there, Feb. 26, 1903. He entered a printing office, but soon exchanged this for a banking establishment, was cashier of a New York bank in 1864-1880, and in 1880-1884 was treasurer of the New York, Ontario and Western Railroad. In

1885–1887 he served as treasurer of the United States, during this period introducing a revised form of debt and cash statements. He was one of the founders of the Western National Bank of New York, of which he became president for a brief period. From 1893 until his death he was assistant United States treasurer in New York.

JORDAN, David Starr, American biologist and educator: b. Gainesville, N. Y., Jan. 19, 1851; d. Stanford University, Calif., Sept. 16, 1931. He secured a master's degree at Cornell University in 1872, and three years later he was awarded his doctorate in medicine at Indiana Medical College. In 1875 he went to Butler University as professor of biology. He resigned this chair in 1879 to go to Indiana University as professor of zoology, and from 1885 until 1891 he served as president of that institution. In 1891 he became the first president of Leland Stanford Junior University; he continued in this office until 1913, when he was made chancellor, an appointment which he held until 1916. Early in his career he had become recognized as one of the leading American authorities on fishes. On behalf of the United States Fish Commission he investigated the fur seal and salmon industry, and he made a study of the geographic distribution of animals and plants, and the relation of species to environment. He was also interested in the problem of preserving world peace, from 1910 to 1914 serving as chief director of the World Peace Foundation. His numerous works included *Manual of the Vertebrates of Northern United States* (1876–1929); *Fishes of North and Middle America* (with B. W. Evermann, 1896–1900); *Footnotes to Evolution* (1898); *American Food and Game Fishes* (with Evermann, 1902); *Voice of the Scholar* (1903); *Fishes* (1907); *The Human Harvest* (1907); *Evolution and Animal Life* (with V. L. Kellogg, 1907); *War's Aftermath* (1914); *The Genera of Fishes* (1918–1920); *Fossil Fishes of Southern California* (1919–1926); *The Higher Foolishness* (1927); *The Trend of the American University* (1929); also his autobiography *Days of a Man* (1922).

JORDAN, Dorothea (or **Dorothy**), stage name of DOROTHEA BLAND, an Irish actress: b. Waterford, 1762; d. St.-Cloud, France, July 3, 1816. She made her first stage appearance in Dublin in 1777 as Phoebe in *As You Like It*. In 1782 she appeared at Leeds, England, and subsequently she toured the English provinces. In 1785 she appeared at Drury Lane, London, in *A Country Girl*. She was most successful and remained at Drury Lane until 1809. In 1811 she appeared at the Covent Garden, excelling in comedy roles. She retired from the stage in 1815. Her private life was a scandal. She had four children by Sir Richard Ford, and for several years was known as Mrs. Ford. In 1790 she became the mistress of the Duke of Clarence, afterward William IV, by whom she had 10 children, who were ennobled under the name of FitzClarence. William IV erected a statue to her in 1831.

JORDAN, Edwin Oakes, American bacteriologist: b. Thomaston, Me., July 28, 1866; d. Sept. 2, 1936. He graduated at the Massachusetts Institute of Technology in 1888 and secured his Ph.D. at Clark University in 1892. In the latter year he joined the faculty of the Uni-

versity of Chicago as associate in anatomy, and he was professor of bacteriology there from 1907 until his retirement in 1933. He conducted researches on influenza, typhoid fever, food poisoning, and bacterial dissociation. His books included *Food Poisoning*, 2d ed. (1931) and *The Newer Knowledge of Bacteriology and Immunology* (1928).

JORDAN, Elizabeth Garver, American editor and writer: b. Milwaukee, Wis., May 9, 1867; d. New York City, Feb. 24, 1947. She was a member of the editorial staff of the *New York World* for ten years and assistant editor of the *Sunday World* for three years prior to 1900, when she was appointed editor of *Harper's Bazaar*; after resigning this chair in 1913 she was literary adviser to Harper and Brothers, New York publishers, for three years. Her numerous books included *Tales of the City Room* (1898); *May Iverson, Her Book* (1904); *Lovers' Knots* (1916); *Wings of Youth* (1917); *The Girl in the Mirror* (1919); *Red Riding Hood* (1924); *Miss Blake's Husband* (1925); *Page Mr. Pomeroy* (1933); *The Life of the Party* (1935); and the autobiographical *Three Rousing Cheers* (1937).

JORDAN, John Woolf, American librarian and editor: b. Philadelphia, Pa., Sept. 14, 1840; d. Wilmington, Del., June 12, 1921. From 1888 he served as editor of the *Pennsylvania Magazine of History and Biography*, and from 1895 until his death he was also librarian of the Historical Society of Pennsylvania. His writings included *Narrative of John Heckewelder's Journey to the Wabash in 1792*; *Bishop Spangenberg's Notes of Travel to Onondaga in 1746*; *Franklin as a Genealogist* (1895).

JORDAN, Louis Henry, Canadian clergyman: b. Halifax, Nova Scotia, July 27, 1855; d. Oct. 4, 1923. He was educated at Dalhousie and Princeton universities, and subsequently studied in Germany at Marburg, Leipzig, and Berlin. His successive ministries were at Saint Andrew's, Halifax (1882–1885), Erskine Church Montreal (1885–1890), and Saint James Square Church, Toronto (1894–1900). During 1887–1889 he was lecturer on church polity at the Montreal Theological College, and in 1902 he was special lecturer on comparative religion at the University of Chicago. His books included *Comparative Religion: Its Genesis and Growth* (1905); *Comparative Religion: A Survey of its Recent Literature* (1906; 1910; 1914); *Comparative Religion: Its Methods and Scope* (1908); *The Study of Religion in the Italian Universities with Labanca* (1909); *Modernism in Italy: Its Origin, its Incentive, its Leaders and its Aims* (1909); *Comparative Religion: Its Adjuncts and Allies* (1915).

JORDAN, Thomas, American army officer: b. Luray, Va., Sept. 30, 1819; d. New York City, Nov. 27, 1895. He graduated at West Point in 1840 and saw active service in the Seminole and Mexican wars. During 1856–1860 he was stationed on the Pacific coast, at this period introducing steam navigation on the Columbia River above The Dalles. With outbreak of the American Civil War in 1861 he resigned his commission and entered Confederate service. He fought at the first Battle of Bull Run and served as chief

staff to General Beauregard. During 1868-69 he edited the *Memphis Appeal*, and in the next year he went to Cuba to lead volunteers fighting the insurgents; given chief command of the Cubans following his landing at Mayari, in January 1870 he inflicted a defeat upon the Spaniards at Guaimaro. With collapse of the revolution in 1871 he settled in New York City, where founding and editing (until 1892) the *Financial and Mining Record*. With J. B. Pryor he wrote *The Campaigns of Lieut. Gen. Forrest* (1868).

JORDAN, William George, Canadian clergyman; b. Whitby, Yorkshire, England, 1852; d. Toronto, Ontario, June 1939. He studied at London University and graduated in theology at the Presbyterian College, in London. After a period with the United Methodist Free Churches he joined the Presbyterian Church. Migrating to Canada in 1889, he spent some nine years as minister at Strathroy, Ontario. In 1899 he was appointed professor of Hebrew literature at Queen's University, Kingston, Ontario, and he continued to occupy this chair until his retirement in 1929. His numerous writings included *The Tong and the Soil*; *History and Revelation*.

JORDAN, Hashemite, hāsh'ēm-it, Kingdom of the, an independent state in northwest Arabia, until April 26, 1949, known as TRANSJORDAN. It is bordered on the south and east by Saudi Arabia, on the east by Iraq, on the north by Syria, and on the west by Israel. The area of 17,500 square miles includes 2,500 square miles west of the River Jordan (formerly in the British mandated territory of Palestine) annexed on April 24, 1950. The population of 1,500,000 (1950 est.) includes some 600,000 Arab refugees from Palestine. Most of the people are Arabs of the Moslem faith; besides Christian Arabs, there are other racial groups, chiefly Circassians. A large proportion of the population is nomadic or seminomadic. Amman (pop., est. 1949, 101,000), the capital, is 25 miles northeast of the Dead Sea; it was the Biblical Rabbah (Rabbath), and was named Philadelphia for Ptolemy II Philadelphus. Other towns include Irbid, in the north, Ma'an, 60 miles south-southeast of the Dead Sea, and 'Aqaba, the kingdom's seaport at the head of the gulf of the same name, on the northeastern arm of the Red Sea. Cities in the area annexed in 1950 include Bethlehem, Jericho, Hebron, Nablus, and the Old City portion of Jerusalem.

The topography, climate, and physical character of the country are typical of most of Arabia (qv.). While fertile near the Jordan and the western shores of the Dead Sea (Bahret Lut), sand dunes occupy much of the surface. The highest point is Jebel Ajlun, which has an elevation of 4,068 feet; Ras Siyagha, 2,644 feet, is the Biblical Mount Nebo or Pisgah. Several streams flow from the fertile areas into the Jordan, among them the Kufrinji and the Nar ez Zerga; the Seil el Qadi and other streams enter the Dead Sea. Indigenous flora and fauna are scanty, though gazelles are still plentiful in the desert regions in the east. Few minerals have been located. Rich phosphate deposits exist near the western frontier, and toward the southern end of the country are indications of the presence of petroleum in payable quantities. Other known minerals include iron, copper, and manganese.

Under the constitution which went into effect on April 1, 1947, executive power is vested in the king, who appoints the prime minister and approves the nominations to the 11-member Cabinet. The legislature consists of a 20-member Senate (until 1950 10-member), the senators being appointed by the king for 8-year terms, and an elected 40-member Chamber of Deputies; the electorate is restricted to males. A 20-year military alliance signed with Great Britain in 1948 provided for the stationing of Royal Air Force units at the Amman and Mafrak airfields. The Arab Legion, Jordan's army, is trained by British officers and commanded by a Briton. In 1950 the Palestine pound was replaced by the dinar, divisible into 1,000 fils, as the currency of Jordan. Although elementary education up to the fifth grade is compulsory and free, illiteracy is widespread. Coeducation is prohibited. At Amman are Terra Sancta College and the Islamic Higher College; and the government also provides scholarships for university education in Britain, the United States, and France.

Agricultural and pastoral industries are possible in the settled western districts. Wheat, barley, lentils, beans, grapes, tobacco, and olives are cultivated; raisins are an important item in the Arab diet. There is also a thriving trade in livestock and animal produce with the neighboring countries. With the extension of irrigation the country has considerable potentialities. There are a few light manufacturing industries, such as mechanical workshops, woodwork, furniture, and building. The phosphate deposits are being developed, and potash is obtained from the Dead Sea. Other minerals exploited include ochre, gypsum, kaolin, and silica sand. The major portion of the Hejaz Railway traverses Jordan, north to south, from the Syrian border to Ma'an, the line thence having fallen into disuse after World War I. There are some 2,200 miles of highways, mostly unpaved; they include an east-west highway linking Haifa, Israel, with Baghdad, Iraq, and a road southward from the frontier of Syria to the port of 'Aqaba. The country is served by a local airline, and by other lines operating between Egypt and Iraq.

History.—Edom, Gilead, and Moab, countries of the early Israelites, lay within the modern Hashemite Kingdom of the Jordan, and the region subsequently was of importance during the era of the Graeco-Roman civilization. Conquered by the Moslems in 637, it formed part of the Ottoman Empire down to World War I. Following expulsion of the Turks by British forces in 1918 the country was included in the Arab kingdom of Syria formed by Faisal, third son of Husein ibn-Ali, king of the Hejaz. Faisal was ejected by the French in 1920, and the next year Abdullah, second son of Husein, arrived at Amman with the intent of assisting in the reconquest of Syria by his younger brother. This proving impracticable, with British assistance Faisal became king of Iraq and Abdullah was created amir of Transjordan. In 1922 the latter country was made part of the League of Nations mandate for Palestine entrusted to Great Britain, but was expressly excluded from inclusion in the clauses relating to the Holy Places and establishment of a national home for the Jews in Palestine. With the approval of the League of Nations, in 1928 Great Britain recognized the existence in Transjordan of an autonomous government under mandatory control, with Amir

Abdullah ibn-Husein as head of the state. The 1928 agreement with Britain was revised in 1934 and again in 1941, and on March 22, 1946, the mandate having been revoked, Great Britain accorded recognition to the independence of Transjordan. With the country now independent, on May 25, 1946, the amir assumed the title of king. The country became a member of the Arab League, but membership in the United Nations was vetoed by the Soviet Union. During 1947-1948 many thousands of Arabs fled to Transjordan from Palestine to escape the fighting between Jews and Arabs which preceded establishment of the state of Israel; and an armistice concluded on April 3, 1949, between Transjordan and Israel provided for the occupation by Jordanian forces of the Old City of Jerusalem and an area of central Palestine amounting to about one fourth of the former mandate. It was announced on April 26, 1949, that Transjordan would henceforth be known as the Hashemite Kingdom of the Jordan. The king established a civil administration in Jordan-occupied Palestine on March 16, 1949, and on April 24, 1950, the annexation of that area was proclaimed; this acquisition more than doubled the population of Jordan. The United States accorded recognition to the kingdom on Jan. 31, 1949, and on April 27, 1950, Great Britain gave *de facto* recognition to the annexation of Jordan-occupied Palestine. King Abdullah, who had labored for nearly 40 years to unite large areas of the Middle East under the rule of his family, was murdered outside the Mosque of Omar, in Jerusalem, by a Palestinian Arab on July 20, 1951. Prince Naif, Abdullah's second son, assumed the regency until September 6, when his elder brother, who had been recuperating from illness in Switzerland, returned to Amman and took the constitutional oath as King Talal.

Consult Peake, F. G., *A History of Transjordan and Its Tribes*, 2 vols. (Amman 1934); Konikoff, A., *Transjordan: An Economic Survey*, 2d ed. (Jerusalem 1946).

JORDAN, the largest river of Palestine, constitutes in its upper course the boundary between northern Israel and Syria and the Hashemite Kingdom of the Jordan; its lower course lies wholly in that kingdom as enlarged by annexation in 1950. The river rises in the Anti-Liban (Anti-Lebanon) Mountains, west of Mount Hermon, and flows south through the Waters of Merom (Bahret el Hule) and the Sea of Galilee (Lake Tiberias, Bahret Tabariya) to enter the northern end of the Dead Sea (Bahret Lut). The length is approximately 200 miles. The valley of the Jordan south of the Sea of Galilee is a great depression, known to the Arabs as the Ghor, 65 miles long; it lies below the level of the sea. The Jordan is not navigable.

JORDANES, jôr-dā'nēz, or **JORDANIS**, a 6th-century ecclesiastic and historian. The first of his two historical works was a short compendium of the most important events in history from the creation to 552 A.D. The second is a history of the Goths, based upon, or copied from, the 12 lost books of the Roman senator Cassiodorus.

JORIS, yô'ris, **David** (also **JAN JORISZ** or **JORISZON**), Dutch Anabaptist leader: b. Bruges, 1501?; d. Basel, Switzerland, Aug. 25, 1556. He joined the Anabaptists in 1533, and at Delft,

in 1556, he founded a sect known as the Davidists or Jorists. Pretending to be the Messiah he denied the Resurrection and held various heretical opinions. In order to avoid persecution he fled in 1544 to Basel, where he lived under the name of Jan van Brugge till his death. When the truth was revealed in 1559, he was denounced for heresy and his remains were exhumed and burned.

JORN UHL, yörn ōl, by Gustav Frenssen is one of those novels, found in the literature of every nation, in which not a man but a well-established national type is the hero. The book was published in English translation in 1905. The author who makes such a type the central figure of a romantic story is sure of popular approval in just the proportion in which his character is true to life and recognizable, emphasizing the universal in the portrait, distinguishing the typical, shading down the personal. Gustav Frenssen was peculiarly successful in his attempt to create, through Jorn Uhl, the picture of the young German peasant-farmer: industrious, idealistic, imaginative, doing his duty not only with patience but with high courage, loving the land, but loving the stars more and with a vision of something even beyond the stars. Contrasted with him are the equally life-like figures of his drunken, pompous, spendthrift father, his drunken, idle, thieving older brother who waste the land beyond all power of Jorn Uhl's labor to redeem it. Together they are the personification of a German peasant family. The straightforward, provincial simplicity of Frenssen's style is thoroughly in harmony with the story and the character of the hero, and deepens the sense of reality. One chapter of the book, detailing the drafting of the young peasant for war service and his experience in the Battle of Gravelotte, has the quality of permanent interest in national literature, and has been translated into use in schools.

JORULLO, hòá-rōō'yò, a volcanic peak in Mexico, in Michoacán state 160 miles southwest of Mexico City. The height is 4,331 feet. Great destruction was caused by its eruption in 1753.

JOSE, hò-sā'. The *José* (*Joseph*, first published at Madrid 1885) of the noteworthy Spanish novelist, Armando Palacio Valdés (1853-1938), is not one of the more ambitious of his works. An interesting novelette in manners, portraying actual conditions of life in the northern maritime districts of Spain, it tells in simple and direct fashion of the tribulations encountered by two lovers of humble station, whose union is thwarted for a while by the machinations of the girl's avaricious and heartless mother and by the operations of a national law which gives parents a tyrannical control over their children contemplating matrimony. The characters are presented in vivid colors on a background of sea and shore, and even the figure of the decayed gentleman, the modern Don Quixote here called Don Fernando de Meira, escapes the charge of conventionality by conforming naturally to type. One might wish, however, that the author had not seen fit to make Fernando's end so wretched; perhaps, withstanding, he felt it imperative to draw home the lesson that for the melancholy ab-

ons of hidalgism a corrective is not easily found. In some of the scenes in which the wives play a part with their wordy quarrels and hair-pulling exercises, Valdés must perforce descend to the vulgar; but he realizes the danger of the situation and never ventures too far into repugnant detail. Taking him all in all, Valdés, as the author of this successful idyll and of about a score of novels of acknowledged worth of his 'Marta y María,' his 'Majos de Madrid' and his 'Alegria del Capitán Ribot,' has proved himself a talent of high order among our modern writers of prose fiction and has well merited the generous flood of praise accorded him by so competent a judge as Mr. Howells.

JEREMIAH D. M. FORD.

JOSEFFY, yō-sēf'i, Rafael, Hungarian-American pianist: b. Miskolcz, Hungary, 1853; d. 1915. He was a pupil of Moscheles at the Leipzig Conservatory and of Tausig at Berlin, won distinction in a concert tour of Holland and Germany, and later appeared with large success throughout Europe and the United States. For several years he was a professor in the National Conservatory at New York, where he resided from about 1880. He was a member of the faculty of the National Conservatory of Music, New York, from 1885 to 1906. As a virtuoso he evinced great facility and technical finish, and won particular recognition through his interpretations of Chopin. His compositions include 'Ungarisches Album' (6 works for pianoforte); 'Die Mühle' (op. 33), a 'Marche Turque,' and 'Konzert-Studien nach Chopin.' He is also the author of the popular work 'School of Advanced Piano Playing' (1892).

JOSEPH, a son of the patriarch Jacob by his favorite wife, Rachel. His father's preference for him and his own relation of dreams which predicted his future exaltation above those of his household drew upon him the envy of his brothers, who sold him to Ishmaelitic and Midianite slave-dealers, by whom he was sold to Potiphar, a captain of the guard in Egypt. The story of his condemnation to prison on the false accusation of Potiphar's wife, of his release and subsequent elevation to the position of vice-regent of Egypt and the final settlement there of his father and brothers is related in the book of Genesis. Authorities still differ as to the period in Egyptian history to which Joseph's life belongs, but the majority agree in placing it under the Hyksos or shepherd kings.

JOSEPH, North American Indian chief of the Nez Percé tribe: b. about 1830; d. Nespelem, Colville Reservation, Wash., 21 Sept. 1904. Of remarkably fine physical build and endowed with superb mental gifts, Joseph (Hinmaton-Yalatlit) was one of the most remarkable men of his race. In 1863 he refused to recognize the treaty by which the whites obtained entry to the Wallowa Valley, the ancient home of his people, in northeastern Oregon. Many of the Indians sympathized with him and continued to dwell there in spite of frequent bickerings with the white settlers. The government undertook to remove these Indians to the Lapwai Reservation in Idaho, and things were proceeding peacefully when outrages by the whites drove the Nez Percés to fury and caused them to attack the settlements. A declaration of war ensued

and Joseph skilfully led his people in a memorable retreat to within 50 miles of the Canadian border, when his retreat was cut off by fresh troops and on 5 Oct. 1877 he was forced to surrender. His skill won praise from his conquerors, General Howard, Colonels Miles, Sturgis, etc. The promises made to Joseph and his people were ignored, and the Indians, numbering 431, were removed to Fort Leavenworth, Kans., and afterward to Indian Territory, where they remained for many years, always yearning for the mountains and valleys of Idaho. In 1883 the government permitted a party of 33 women and children to go back to their old home and in 1884, 118 others were allowed to go. Joseph, however, and 150 others were not permitted to return to Idaho but were sent to Colville, Wash. Chief Joseph visited President Roosevelt and General Miles at Washington in 1903. In his later years he had become reconciled to civilization and encouraged education among the children of his tribe.

JOSEPH, Father (FRANÇOIS LECLERC DU TREMBLAY), French propagandist and statesman: b. Paris, 4 Nov. 1577; d. Rueil, 18 Dec. 1638. He belonged to a distinguished family, traveled much in his youth, and served in the army under an assumed name, but in 1599 he entered the Capuchin order, in which he subsequently attained a high position. Attracting the attention of Cardinal Richelieu, in 1611, that statesman made Father Joseph his secretary and confidential adviser. In this capacity, and as provincial of his order in France, he wielded immense influence and power for many years and ably seconded the cardinal's efforts to convert the Huguenots. He was eager for the defense of Christianity against the Turks and advocated a crusade against them. He left several volumes of memoirs which are still in manuscript in the Paris Library. Consult O'Connor, R. F., 'His Grey Eminence, the true Friar Joseph: An Historical Study' (Philadelphia 1912).

JOSEPH, Saint, the husband of Mary the mother of Jesus Christ, was a descendant of the house of David, born at Bethlehem, but resident at Nazareth, where he practised the trade of a carpenter. Tradition and art represent him as an old man at the time of Christ's birth and he is said to have died before the beginning of Christ's public ministry. His day in the Roman Catholic calendar is 19 March.

JOSEPH I, emperor of Germany: b. Vienna, 26 July 1678; d. 17 April 1711. He succeeded his father, Leopold I, and was employed for nearly the whole of his reign in war. With England and Holland he continued the war against France, to seat the Archduke Charles on the throne of Spain. The great victories gained by the allies under Marlborough in the Low Countries and Prince Eugene on the Rhine made the reign of Joseph especially noteworthy. He was equally triumphant in Italy and Hungary; in the latter kingdom driving the revolted Bagotski from the country and forcing him to seek safety in Turkey; while in the Italian peninsula great cities from Mantua to Genoa were laid under heavy contributions.

JOSEPH II, German emperor, oldest son of Francis I and Maria Theresa: b. Vienna, 13 March 1741; d. there, 20 Feb. 1790. He was

elected king of the Romans in 1764, and on the death of his father in 1765, German emperor. His mother declared him coregent in the hereditary states of the house of Austria and gave him the command of the army, but the real authority remained in her hands. In the earlier part of his reign he employed his time in traveling and becoming acquainted with his estates. He visited his sister, Marie Antoinette, at Paris, and Catherine of Russia in 1780. It was also in those years that he began his intimacy with Frederic II of Prussia, resulting later in the partition of Poland. In November 1780, Maria Theresa died, and Joseph came into possession of full dominion over his hereditary states. He immediately began a series of sweeping reforms. In 1781 the Edict of Toleration granted freer religious worship to all orthodox sects. At the same time he suppressed Catholic monasteries, brought the education of the clergy under state control, and opposed papal interference with the church in his country. Joseph initiated a new system of governmental departments. He simplified the organization of justice, abolished serfdom, revamped the penal code, inaugurated tax reforms, removed trade restrictions, spread education, and established hospitals, asylums, and orphanages. He acted on the definite system for the good of all, but his benevolent despotism received wide disapproval because of the complete disregard of conventions, traditions, and special interests. Increasing serious opposition and unrest toward the end of his reign forced him to withdraw most of his reforms. His family and his friends scorned his liberal views, treating him with cruel neglect. Joseph II died a disappointed and broken man. There is extensive literature on his rule, much of which consists of his correspondence. Consult Arneth, A. von, ed., *Maria Theresia und Josef II, Ihre Korrespondenz*, etc. (Vienna 1867-1868); Schlitter, H., *Die Regierung Josefs II in den Oesterreichischen Niederlanden* (Vienna 1900); Beer, Adolf and Ruter, Joseph, *Joseph II und Graf Ludwig Cobenzl, ihr Briefwechsel* (Vienna 1901); a historical novel by Mulbach, L., *Joseph II and His Court* (New York 1915); Temperley, H. W., *Fredric the Great and Kaiser Joseph* (London 1915); Padover, Saul, *The Revolutionary Emperor: Joseph II* (Toronto 1934); and Goodwin, Sister Mary Clare, *The Papal Conflict With Josephinism* (New York 1938).

JOSEPH AND HIS BROTHERS, a tetralogy of fiction by Thomas Mann, published in four volumes from 1933 to 1943: *Die Geschichten Jacobs* (*The Tales of Jacob*, 1933); *Der junge Joseph* (*Young Joseph*, 1934); *Joseph in Aegypten* (*Joseph in Egypt*, 1936); and *Joseph der Ernährer* (*Joseph the Provider*, 1943). He no longer dwells upon the note of decadence in order to expose the delusion of the German citizen "that one may be a man of culture, yet not of politics," as in *The Buddenbrooks* and *The Magic Mountain* (qq.v.). The theme here is much broader: the author chooses as its framework the simple Old Testament story of the sons of Jacob, with the dramatic career of Joseph as the central feature. Mann makes no important deviations from the Biblical narrative, completely discarding the element of suspense which most novelists regard as a first requisite. With a virtuosity of style equalled only by an incredibly penetrating imagination and rare psychological

insight, he recasts these narratives into a new mold and casts new light upon their fundamental ideas. The characters never become mere abstractions representing certain ideas: they are vividly real in all that they do and say, and the reader is carried along as with the sweep and surge of a great symphony, which ranges from the mystery of man's origins to the coming of the new social world, concerning which the author himself said in *Leiden und Grösse der Meister*: "the new, the social world will come, the organized, united and planned order, in which humanity will be freed from sub-human, unnecessary sufferings which violate the dignity of reason."

It is a notable fact that the writing of the Joseph stories was Mann's preoccupation through the troubled decade preceding his "half voluntary, half involuntary" exile, and extended through another 10 years, into the midst of World War II, the last volume being written in the United States between 1940 and 1943. This in itself demonstrates his unswerving zeal in the steadfast pursuit of a high purpose, which Professor Erwin Edman of Columbia University aptly characterized when he called Thomas Mann "the foremost humanist of our time, who takes the role of man of letters in a serious, almost prophetic sense, and feels that great art must be an instrument of salvation, the regeneration of a democratic, perhaps a classless society" (*Saturday Review of Literature*, July 31, 1937.)

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JOSEPH OF ARIMATHEA, jō-zēi -(zīf), ār'i-mā-thē'ā, member of the Jewish Sanhedrin who dissented in the action of the condemnation of Jesus. He was the person responsible for the burial of Jesus, and the only mention of him in the New Testament is in connection with this entombment. According to tradition, Joseph later went to Gaul as a missionary. He is accredited with having erected the first Christian chapel in Britain on the grounds of Glastonbury. From the legends of medieval poetry and tales, he was the one who brought the Holy Grail to Britain. In the Roman Catholic calendar, his feast day is celebrated on March 17; in the Greek Church it is celebrated on July 31. In addition to the Biblical reference there are also dramatizations of his life: Tarriex, Gabriel, *Les Vaincus: Joseph d'Arimathie* (Paris 1903); Steyl, Johannes Albert von, *Joseph von Armathia, ein Karfreitagsspiel in fünf Aufzügen* (1921); and Taylor, Winifred G., *Joseph of Arimathea: A Passion Play* (London 1930).

JOSEPH OF EXETER, English ecclesiastic and Latin poet: c. 1190. He was a native of Exeter but lived in France most of his life. In 1168 he accompanied Archbishop Baldwin on a crusade to the Holy Land. Among his chief works are *Antiocheis*, a poem on the third crusade; *De Bello Trojana* (6 vols.); and *Panegyricus ad Henricum*.

JOSEPHI, jō-zēf'i, Isaac A., American artist: b. New York City, 1859. His artistic education was obtained at the Art Students' League, and with Léon Bonnat at Paris. He has exhibited his miniatures and landscapes at many exhibi-

bitions, receiving honorable mention at the Paris Exposition of 1900 and a silver medal at the Charleston Exposition of 1902.

JOSEPHINE de BEAUHARNIS, b6-ar-né, née **MARIE JOSEPHINE ROSE TASCHER de la PAGERIE**. French Empress: b. Martinique, June 23, 1763; d. La Malmaison near Paris, May 29, 1814. She was the eldest of three daughters and at 16 married the vicomte Alexandre Beauharnis. Josephine was left a widow when Beauharnis was executed as an antirevolutionist in 1794. Two children survived the marriage, Eugene, and Hortense who later became queen of Holland. Josephine's popularity in high French society was at its peak when Napoleon Bonaparte was securing reputation as a soldier and a leader. After the announcement of Napoleon's appointment to the command of the army in Italy, Josephine was married to him in a civil ceremony on March 9, 1796.

The correspondence that Josephine received from Napoleon during campaigns revealed his sincere enthusiasm and love for her. Josephine, however, made few replies, and those she did make were coldly indifferent. She was also discovered to be on compromising terms with several of the officers of the court. When Napoleon threatened divorce, she dissuaded him by promising to amend her life. Fighting the ill-will of Napoleon's relatives, she managed to make her marriage more indissoluble by convincing her husband of the desirability of a remarriage with religious rites and sanction.

Even after this, the continuance of her fickleness, her ceaseless extravagance, and her inability to bear a son caused a final break in her marriage to Napoleon. Through the irregularity of slight technicality, their church wedding of December 1804 was declared null and void.

Josephine withdrew to her retreat at La Malmaison, where she lived her last ten years in retirement. Napoleon frequently visited Josephine to pay his respects to her friendship and to be advised on matters in which he valued her tact and good sense. Consult Masson, F., *Josephine*, 2 vols. (Paris 1899-1902); Ober, F., *Josephine, Empress of the French* (London 1901); Tarbell, L., *Life of the Emperor Napoleon* (New York 1901); Hall, H. F., ed., *Napoleon's Letters to Josephine, 1796-1812* (New York 1903); Le Normand, M. A., *Mémoires Historiques et Secrets de Joséphine*, 2 vols. (New York 1904); Sergeant, P. W., *The Empress Josephine*, 2 vols. (London 1908); Pichevin, R., *L'Impératrice Joséphine* (Paris 1909); Méneval, N. J. E. de, *The Empress Josephine* (tr. D. D. Fraser, Philadelphia 1912).

JOSEPHINITE, a natural iron-nickel alloy, Fe-Ni, found in placer washings on Josephine Creek, Josephine County, Ore.

JOSEPHUS, Flavius, Jewish scholar and historian: b. Jerusalem, 37? A.D.; d. 95 A.D. He was a precocious child and at an early age became a student of law. After a brief visit to Rome, he returned to Palestine serving as a delegate to Nero. He was later chosen governor of Galilee and took active part in the Jewish revolt against the Romans in 66. Leading a small band entrenched on a stronghold point, he resisted siege for 47 days but ultimately had to surrender. Josephus predicted that Vespasian, his cap-

tor, would become emperor. When his prophecy was fulfilled, he was set free. Josephus then adopted the name Flavius, the surname of Vespasian, and remained in the new emperor's patronage. Josephus returned to Rome where he was made a citizen and awarded a pension and an estate in Judea. He wrote *The Jewish War*, a valuable historical document, and *The Antiquities of the Jews*, a history of the Jewish race from the creation until the war with Rome, which is reputed to be his greatest work. English translations are available. Consult Krauss, S., "Josephus Flavius" *Jewish Encyclopedia* vol. 7, (New York 1904); Reinach, Théodore, *Oeuvres Complètes de Flavius Josèph* (Paris 1900-1932); Whiston, William, *Collected Works of Josephus Flavius* (Connecticut 1905); Winbolt, S. E., *Josephus Flavius, Two or More Works* (London 1907); and Bentwich, N. de M., *Josephus* (Philadelphia 1914).

JOSETSU, jō-sē-tsōō. Japanese painter, teacher, and priest: c. 1400. He did landscape paintings of Chinese origin usually showing characteristics of the Ming technique. He was a member of the 4th Yoshimitsu school at Kokokuji, Kyoto, and is responsible for the founding of the school based on Sung and Yuan principles.

JOSH BILLINGS. See SHAW, HENRY WHEELER.

JOSHUA, the leader of the Israelites after the death of Moses. He was the son of Nun, of the tribe of Ephraim, and upon him fell the task of conducting the people over the Jordan, and commanding their armies in battle against the heathen they were ordained to dispossess. He succeeded in ravaging a large portion of Palestine and dividing it among the people. He died at the age of 110 and was buried at Timnath-Serah, in Mount Ephraim.

JOSHUA, Book of. The first 12 chapters of the book of Joshua continue the history of Israel from the point reached at the end of Deuteronomy, the death of Moses, to the conclusion of the conquest of western Palestine. Chapters 13-21 tell of the division of the land among the tribes. The remaining chapters, 22-24, constitute an appendix, giving various details concerning the closing days of Joshua, including his death and the death of Eleazer the son of Aaron.

It is generally agreed that the documents found in the Pentateuch are to be discerned also in Joshua. This results from evidence of the same kind as in the Pentateuch. Their distribution, however, is peculiar. The bulk of chapters 1-7 is from JE, and of 13-21 from P. A considerable part, in detached portions, of 1-12 is from D, but very little in 13-21. All three sources are found in considerable measure in the appendix 22-24. The JE source shows evidence of being composite, especially in double accounts of the same event, but most of it cannot be separated definitely into the J and E portions, in this respect differing from the Pentateuch. The D and P portions are probably not from the same documents as those which are called by these terms in the Pentateuch, but from writings by other authors of these schools. Concerning the details of the compilation of the book there is much difference of opinion. The best opin-

ion seems to be that the book was never actually joined with the Pentateuch, but always an independent book. It is often joined with the Pentateuch under the term Hexateuch because of the use of the same or similar documents.

There are various indications in the book itself that portions of it, at any rate, were written considerably later than the events described. The idealizing of the history, which will be mentioned later, is such an indication. Such also is the reference to "until this day" in Joshua xv, 63, and the reference to the book of Jashar, x, 13, which was a book of poetry later than David. The evidence of the documents indicates that the book contains portions written at various times. The final compilation, however, must have been as late as P, i.e., as late as 500 B.C. Some think it was considerably later, but there is no strong evidence of this, although some slight additions may very possibly have been made considerably later.

The degree of historicity of the book varies with the documents. The presumption would be that the JE portions are more fully historical, a presumption which is confirmed by a detailed examination. In the D and P portions the history is strongly idealized. Especially, the D and P portions present the view that the conquest of the land was completed by Joshua, the inhabitants exterminated, and the land divided among the tribes. Scattered notices from JE, however, in agreement with Judges i. 1-ii, 5, teach that the conquest was effected only gradually by the individual tribes. The view of JE is the earlier, historical one; the other, of D and P, is later and much idealized. The historical data of the book need careful examination in order to ascertain the probable facts. Further, the history of the book is fragmentary, the omission of any account of the conquest of central Palestine being especially remarkable. The D portions present the same religious view of the history that is found in the book of Deuteronomy.

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JOSIAH, king of Judah. He succeeded his father, Amon (638 B.C.). He is said in the Scriptures to have done "that which was right in the sight of the Lord." He took an active part in the reform of temple worship, and in the abolition of idolatry throughout the land, and commenced the restoration of the temple, during the progress of which the high-priest Hilkiah discovered the book of the law, that is, the book of Deuteronomy. In his 30th year he marched out against Pharaoh Necho, king of Egypt, who was on his way to attack the kingdom of Assyria. Josiah was slain in the battle at Megiddo where he had attempted to check the northward march of the Egyptians. Consult Wellhausen, 'Israelitische und jüdische Geschichte' (7th ed., Berlin 1914).

JOSIAH ALLEN'S WIFE. See HOLLEY, MARIETTA.

JOSIKA, yó'shi-ka. Miklós, BARON, Hungarian novelist: b. Torda, Transylvania, 2 April 1794; d. 27 Feb. 1865. He entered the army, reaching the rank of Captain, in 1811, turned to politics, and finally in 1834 devoted himself to literature. He took an active part in the Hungarian uprising of 1848, fled in 1850 to Brussels, and went in 1864 to Dresden, where he died. In September 1851, he was, with Kossuth and 35 others, hanged in effigy at Pest. Although the government subsequently offered him amnesty he never returned to Hungary. Up to 1848 he produced 60 volumes of romances, illustrating Hungarian life and history. His principal works are 'Abafi' (1851); 'Zrinyi a költő' (1843); 'Az utolsó Bátor' (1840); 'A Csehek Magyaró szágban' (1845); 'Egymagyar család a forradalom alatt' (1851). Most of his novels have been translated into German, and one—'Familie Maily'—was written in Uno language. Profoundly versed in the life of his people, and master of a pleasing style, he was very popular. Four volumes of memoirs appeared soon after his death (Pest 1865).

JOSS, a Pidgin-English term derived from the Portuguese "deos," meaning God. The word denotes a Chinese god or idol. A Joss-house is the place or temple where the idol is worshipped. There are three such houses in San Francisco, one in Chicago and two in New York. Joss paper refers to the gold and silver paper ornaments which are burned as sacrifice to the gods. Joss stick is a small stick made of a paste formed by compounding the dust of various scented woods mixed with clay. These are burned in the temples as incense for the gods.

JOSSELYN, jos'lin, John, English traveler: b. England, early in the 17th century. He sailed for New England on 26 April, arriving in Boston on 2 July 1638, and "presented his respects to Mr. Winthrop, the governor, and to Mr. Cotton, the teacher of Boston church, to whom he delivered from Mr. Francis Quarles, the poet, the translation of several Psalms into English meter." He returned to England in October 1639, and made a second voyage 23 May 1663, to New England, where he spent eight years. On his return in December 1671 he published a book entitled 'New England's Rarities Discovered in Birds, Beasts, Fishes, Serpents and Plants of that Country, etc.' With a picture of Boston in 1663 (London 1672; reprinted in Boston 1865). He also wrote 'An Account of Two Voyages to New England, etc.' (1674) and 'A Chronological Table of the Most Remarkable Passages from the First Discovery of the Continent of America to 1673.' Reprints were issued in Boston (1865).

JOTHAM, king of Judah, who succeeded (735 B.C.) Uzziah, his father, after having acted as regent for a number of years previously as a result of his father's illness. He ascended the throne at the age of 25 and reigned 16 years. He vanquished the Ammonites and furthered public works in Jerusalem to a considerable extent. The prophets Isaiah, Hosea and Micah lived during his reign. Consult Graetz, H., 'History of the Jews' (London 1891).

JOUBERT, zhōō-bār', **Barthelemy Catharine**, French army officer: b. Pont de Vaux, April 14, 1769; d. Novi, Italy, Aug. 15, 1799. Joining the revolutionary army of Napoleon onaparte in 1791, he served in Italy during the campaigns of 1793 and 1797. He fought at Trent and in the Tirol, and in January 1799 he was superseded as commander in chief of French armies in Italy by Jean Victor Moreau (q.v.). Nevertheless he continued in the field with his successor, and took command again when Moreau was being driven by the Russians back toward the Riviera. Against the advice of his generals, Joubert gave battle to the Russians under Count Suvorov-Rymnikski (q.v.) at Novi and suffered crushing defeat; two thirds of his army was destroyed, and he was killed.

JOUBERT, zhōō-bār', **Joseph**, French moralist: b. Montignac, May 6, 1754; d. Paris, May 3, 1824. He began writing in his native village, then went to Toulouse. There he became a professor in the college of the Fathers of Christian Doctrine. In 1809 he was appointed Inspector of the University of Paris. He was a friend of Louis de Fontanes, François Auguste René Chateaubriand, Louis Gabriel Ambroise de Bonald (q.v.) and Mme. de Beaumont. Selections from his posthumous *Pensées, essais, maximes et correspondance*, a polished criticism of literature, theology, ethics and politics, were edited by Chateaubriand in 1838 for private circulation; and a two-volume edition was published in 1842 by Paul Le Raynal, Joubert's nephew.

JOUBERT, zhōō-bār', **Petrus Jacobus**, known as **PIET**), South African soldier and statesman: b. Congo, Cape Colony, Jan. 20, 1834; d. Pretoria, Transvaal, March 28, 1900. Of Huguenot parentage, and early left an orphan, he migrated to the Transvaal, settling in the Wakkerstroom district. Besides farming, he studied law and was elected to the Volksraad (legislature). In 1870 he was appointed attorney-general of the South African Republic, and he served as acting president during 1875 to 1876, while President Thomas Francis Burgers (q.v.) was in Europe. "Piet" Joubert was strongly opposed to annexation of his country by the British in 1877, and the next year he accompanied Paul (Stephanus Johannes Paulus) Kruger (q.v.) on the latter's second visit to London seeking its retrocession. When war with Britain was imminent in December 1880, Joubert became, with Kruger and Marthinus Wessels Pretorius (q.v.), member of a triumvirate to serve as a provisional government, and he then commanded the Boer forces which defeated the British at Laing's Nek, Ingogo, and Majuba Hill. With peace re-established, he continued as member of the triumvirate administering the country pending the election of a president in 1883. When the South African War (q.v.) broke out in 1899, he was appointed to command the forces of the Transvaal, and their initial successes during the invasion of Natal were due to his careful preparation. Ill health caused him to relinquish his command and compelled his return to Pretoria, where he did not long survive.

JOUBERT DE LA FERTE, **Sir Philip Bennet**, British air force officer: b. 1887. Educated at Harrow and the Royal Military Academy, Woolwich, he was commissioned in 1907 in the Royal Artillery. In 1913 he secured transfer

to the Royal Flying Corps, and during World War I he served with it in France, Egypt, and Italy, gaining promotion to the rank of flight commander and being awarded the Distinguished Service Order. When the Royal Air Force was constituted in 1918 he was granted a permanent commission in it, and in 1919 was promoted wing commander. With the rank of group captain, from 1922 he filled administrative posts, and taught at the Imperial Defence College from 1926 to 1929. He was promoted air commodore in 1929, air vice marshal in 1934, and air marshal in 1936. In 1937 he went to India as air officer in chief, and in 1938 received a knighthood. Recalled to Britain for duty in World War II, he was promoted air chief marshal in 1941 and given charge of the coastal command. In 1944 he was appointed deputy chief of staff in the Southeast Asia campaign. He was Director of Public Relations, Air Ministry, 1946-1947. He retired in 1947.

JOUETT, jōō'ēt, **James Edward**, United States naval officer: b. Lexington, Ky., Feb. 7, 1826; d. Sandy Springs, Md., Sept. 30, 1902. The son of Matthew Harris Jouett (q.v.), he entered the navy in 1841, served with distinction during the Mexican War, and was promoted to passed midshipman in 1847. In 1861, at the outbreak of the Civil War, he entered Galveston Harbor with a detachment of marines and destroyed the Confederate war vessel *Royal Yacht*, and for his services he was appointed to the command of the United States steamship *Montgomery*. As lieutenant commander, he was prominent in Farragut's entrance of Mobile Bay, August 1864. In 1885, when in command of the North Atlantic Squadron, he opened the transit across the Isthmus of Panama, closed by insurgents. He was promoted rear admiral in 1886, and subsequently was president of the Board of Inspection and Survey; in 1890 he retired. By a special act of Congress, passed March 1893, he was granted full pay during his retirement in appreciation of his great services to his country.

JOUETT, jōō'ēt, **Matthew Harris**, American artist: b. Mercer County, Ky., April 22, 1787; d. Lexington, Ky., Aug. 10, 1827. His ancestors were Huguenots who emigrated to North Carolina, and finally settled in Virginia. They were staunch patriots during the American Revolution. His father eluded the British commander, Sir Banastre Tarleton (q.v.), and gave the alarm to the legislature, then in session at Charlottesville, Va., for which action he received complimentary resolutions from Congress. Matthew was educated for the law, but devoted much time to drawing and painting. He enlisted in the War of 1812 as lieutenant of the 28th Infantry, serving in the Northwest, and was appointed captain. In 1815 he taught himself portrait and miniature painting, but in 1816 went to Boston, where he studied four months under Gilbert Stuart. In October 1816, he returned to Lexington, where he achieved a reputation as a portrait painter, as also in New Orleans and Natchez and throughout Kentucky. He painted more than 300 portraits, among which one of Lafayette was ordered by the legislature of Kentucky. His portrait of John Grimes, a Kentucky artist, is in the Metropolitan Museum, New York City.

JOUFFROY, zhōō-frwā', **François**, French sculptor: b. Dijon, 1806; d. Laval, 1882. He won

the Roman Prize in 1832 with *Capaneé foudroyé sous les murs de Thèbes*. In 1857 he was made member of the Institut and officer of the Legion of Honor in 1861. Two years later he was appointed professor at the Ecole des Beaux-Arts. His best works were *Cain maudit*; *Jeune fille confiant son premier secret à Vénus*; *Lamartine*; *La Désillusion*, for the Dijon Museum (1840); bust of *Merlin* (1844); *Printemps et l'Automne* (1845); *Erigone*; holy-water font at Saint Germain l'Auxerrois, Paris; marble group of three children (1843); group in the portal of Saint Gervais (1854); *Le Chatiment* and *La Protection*.

JOUFFROY, Théodore Simon, French philosopher: b. Pontets, 1796; d. Paris, Feb. 4, 1842. He was educated in Paris at the École Normale, where he came under the influence of Victor Cousin (q.v.), and in 1817 he became assistant professor of philosophy there. In 1833 he joined the faculty of the Collège de France as professor of Greek and Roman philosophy; from 1838 he was librarian to the University of Paris and also professor of philosophy at the faculty of letters. He prepared translations into French of the philosophical works of Thomas Reid and Dugald Stewart (qq.v.) during 1826-1828, contributing notable prefaces to them. In his own philosophical works he drew a sharp distinction between psychology and physiology, which he regarded as separate subjects for inquiry. His writings included *Mélanges philosophiques* (4th ed., 1866; Eng. tr., Boston 1835); *Nouveaux mélanges philosophiques* (3d ed. 1872).

JOUFFROY D'ABBANS, zhōō frwà' dà bān', MARQUIS Claude François Dorothée de, French inventor: b. Roche-sur Rognon (Haute-Marne), Sept. 30, 1751; d. Paris, July 18, 1832. He was claimed by the French as the inventor of steam navigation. He served in the army, and in 1783 succeeded in propelling a small paddle-wheel steamboat up the Saône at Lyons—the connection between piston and paddle-wheel axle being rack-and-pinion. However, he found it impossible to get either the scientific or financial backing necessary to develop his idea and to commercialize it. In 1816 he attempted again to get the necessary support. This time he succeeded in founding a stock company. He built another boat, but its lack of success deprived him of further financial support. In 1830 he was admitted to the Invalides, where he died from an attack of cholera. A statue was erected in his memory at Besançon in 1884.

JOUHAUX, zhōō ō', Léon, French labor leader and politician: b. Paris, July 1, 1879. At the age of 12 he left school to go to work, and when 16 he entered a match factory at Aubervilliers. Transferring from one industry to another, he commenced to take part in syndicalist activities. He represented Angers at a delegate meeting in 1906 of the Comité Confédéral, and three years later he became acting treasurer of the Confédération Générale du Travail (CGT), the federation of all major trade unions in France; he was also elected secretary general of the CGT in 1909, and in this position, which he continued to hold until 1940, he exerted immense influence in the organization. From 1911 until 1921 he edited *La Bataille Syndicaliste*, during that period the principal medium for expression of his views. On outbreak of World War I

he induced the French labor movement to give its support to the government, and when the peace conference assembled in Paris in 1919 he was given a seat on all international bodies concerned with labor questions. In 1920 he was named a member of the administrative council of the International Labor Office, and in 1925 he became French delegate to the League of Nations on matters of economics and disarmament; he held these posts until 1928. During the years following World War I he also continued active in the syndicalist movement, where he had great power, and helped to frame the constitution of the Popular Front. In 1936 he was appointed a member of the administrative council of the Bank of France. When France during World War II capitulated to the Germans and secured an armistice in 1940, Jouhaux was interned at Evaux les Bains. In 1943 the Germans deported him to Austria; he was released from captivity at Itter Castle by United States troops on May 5, 1945. In September of that year he resumed his post as secretary general of the CGT, representing it at a conference held in London; and he was appointed a member of the French delegation to the United Nations.

JOUKOVSKY, Vasily Andreievitch. See ZHUKOVSKI, VASILII ANDREEVICH.

JOULE, jouł, James Prescott, English physicist: b. Salford, Lancashire, Dec. 24, 1818, d. Sale, Cheshire, Oct. 11, 1889. The son of a wealthy brewer, because of ill health he was compelled to study at home, where he devoted himself to scientific research at an early age. In January 1838 he published in the *Annals of Electricity* a description of an electromagnetic engine which he had invented, and two years later he described a method for ascertaining the mechanical equivalent of heat which he determined in four ways. Joule's law, a unit of electrical work, was named for him; it is the equivalent of the work done in a conductor in one second by one coulomb, at a pressure of one volt. He published a paper in 1843 on the heat evolved during the electrolysis of water, and in 1847 he announced the doctrine of the correlation and conservation of energy. This latter research brought him to the notice of Sir William Thomson (q.v.), later called Lord Kelvin, and from that time the two men collaborated to a considerable extent. Notably, they conducted the Joule-Thomson porous plug experiment, which was concerned with the thermal changes undergone by gases forced by pressure through small apertures. Joule's numerous contributions to science in the fields of heat, electricity, and thermodynamics brought him high honors. He received the Copley Gold Medal of the Royal Society in 1866, and he served as president of the British Association for the Advancement of Science in 1872 and again in 1887. A statue was erected to his memory in Manchester, and a tablet placed in Westminster Abbey. His writings appeared mainly in the proceedings of scientific societies and in British periodicals, but were collected and published by the Physical Society of London in two volumes, 1884 and 1887. See also **ENERGETICS**; **HEAT**; **THERMODYNAMICS**. Consult "Memoir" by O. Reynolds, in *Memoirs and Proceedings of the Manchester Literary and Philological Society*, Series

IV, Vol. VI, Manchester 1892); Tyndall, J., 'The Copley Medalist of 1870' (in *Nature*, Vol. V, p. 137, London 1872).

JOULE, International. See **ELECTRICAL TERMS.**

JOURNAL OF THE REV. JOHN WESLEY, The. "It was in pursuance of an advice given by Bishop Taylor . . . that I began to take a more exact account . . . of the manner wherein I spent my time, writing down how I had employed every hour." From the 'diary' kept as a result of this advice John Wesley "transcribed from time to time the more material parts" in order that he might "openly declare to all mankind, what it is that the Methodists (so-called) have done and are doing now; or rather what it is that God hath done and is still doing in our land." That is the origin and scheme of 'The Journal' as set forth by the Rev. John Wesley himself. It begins with the entry of Tuesday, 14 Oct. 1735, the day he and his brother, Charles, "took boat for Gravesend, in order to embark for Georgia," and ends with Sunday, 24 Oct. 1790, about four months before the author's death, covering a period of almost exactly 55 years. 'The Journal' is "a curious, monotonous, wonderful narrative" of the goings and comings, the manner of life, the mental attitude toward the world, rubric, religious doctrine and practice; the temperament, the ideas, the whole purpose of this most itinerant of all itinerant preachers. With the exception of the first part which deals with his visit to America, and a few pages covering his trip to Germany, taken in the hope that a stay among the Moravian Brethren would bring order out of the chaos of religious emotions and notions which filled his soul, this journal of nearly 2,000 closely printed pages is devoted to Wesley's unceasing and unparalleled activities throughout the whole of Great Britain and Ireland. Perhaps no journal of so public a man ever reflected so little of the general life, or contained less information concerning the men and events of the time. For example, there is not a word referring to the epoch-making struggles of the American Revolution. It is the journal of a man who could see only the religious scheme which filled his whole being. It is a carefully prepared record of when he preached and where, what he preached about, the size and the character and conduct of the audiences and the influence of his preaching upon them, together with remarks upon the difficulties and personal damages encountered. The brief and frequent mention of the opposition of the clergy of the "Church as by law established in England," of which he considered himself to be a true and loyal member, and the controversies with all other sectaries make 'The Journal' of value for the study of religious persons and institutions other than John Wesley. Although one must needs go to other sources to get a well-balanced and true measure of Wesley and his religious movement. 'The Journal' must needs be carefully and sympathetically read by anyone who would know the author and Methodism from the inside. Singularly enough, no one would ever suspect, from the reading of this journal, that Wesley had any social or home life; perhaps he didn't. His religion was all in all to him. The people he talked and associated with are presented

either as believers or unbelievers. All the events through which he and others passed and even natural phenomena are set forth in such a way as to make them appear as the workings of providence or the activities of demons, and all this is done with a modesty and reverence that is both attractive and surprising. Had it not been for what Wesley believed was wilful misunderstanding and malicious misrepresentation it is hardly likely this journal would have been prepared and published, in which case the world would have lost an intimate and revealing history of one of the most conspicuous figures and important religious movements of the world. Unquestionably 'The Journal' is *just* John Wesley. What of his life is not here he counted as being of no value and so not worth being recorded. The last section, covering the period from 29 June 1786 to the end was prepared for publication by some one after the death of the great Wesley and so is of different value from the other portion.

CHARLES GRAVES.

JOURNALISM. Journalism is a comprehensive term which signifies the business of producing a public journal. In a general way it is applied to the vocation of making newspapers. Broadly speaking it is both a business and a profession, though the name of journalist as commonly understood is limited to those who are engaged on the editorial or news or literary side of the production rather than on the business side. While editor and journalist are not strictly synonymous — the former meaning the head of a paper or a department and the latter any literary worker on a newspaper — they are often used as convertible terms.

In a large sense the subject involves the functions of journalism as collector and purveyor of news and as leader and exponent of public opinion; the ethics of journalism in its various fields of political, religious, literary, social and commercial aim and representation; the relations of the counting room to the editorial department; the training and qualifications of the journalist; in short, the mission, methods, responsibilities and obligations of journalism. All of these general phases are deeply affected by the physical conditions of the business. During the closing years of the 19th century these conditions were practically revolutionized. In the mechanical facilities of production, in the cheapening of white paper and in the instrumentalities of news collection there has been an extraordinary advance. This great change in the material factors wrought a corresponding change in the scope and character of journalism. Not only as a business enterprise but as a public influence it took on new aspects.

The remarkable development of later years touches every side of the material production of a newspaper. The old, limited, slow-moving printing press has been transformed into the ingenious and gigantic quadruple or octuple which converts the plain white roll into complete, folded papers at the rate of 30,000 to 40,000 an hour. The number of pages may be determined at will, even at the last moment before going to press, thus responding to the exigencies of the news; and the application of the half-tone and of color at undiminished speed

permits pictorial effects. Simultaneously with this improvement in the printing press has come the linotype which substitutes machine typesetting for hand composition. A third vital advance has been the perfection of the process of making paper out of wood-pulp, which has vastly increased the supply and greatly decreased the cost of white paper.

These radical changes in the elemental business factors have largely modified the conditions of journalism. They have opened the way to unlimited production and have enormously cheapened the cost of the single copy. Two and three-cent papers have become the prevailing rule. Immense circulations have thus been rendered possible, and where, about 1875, the edition even of the most widely read papers was comparatively limited not a few now issue scores and even hundreds of thousands of copies a day. At the same time the initial cost of the newspaper plant with its expensive machinery and the magnitude of the daily transactions require a far larger outlay than in the earlier time and the business has come to be one demanding much greater capital.

All of these circumstances have inevitably and powerfully molded the course and character of journalism. They have given increased importance to its business side, and have tended to make business considerations in the publication still more dominant. The effect has been twofold and somewhat contradictory. The great capabilities of the business with the reduced cost of telegraphing have stimulated and quickened journalistic enterprise and have broadened the range of the journalistic field. The scope of journalism has been enlarged and in many cases its standard has been elevated. Within a sphere, perhaps too limited, the best and worthiest effort is accepted as the best business. But, on the other hand, the competition for great circulations has bred sensationalism and a pandering to the taste for personal and piquant matters. There is an eager and feverish struggle for the unusual, the dramatic and the spectacular, a constant straining for effect, a lavishness of "scareheads" and garish pictures, a studied and persistent search for objects of criticism and attack. The appetite for the effervescent grows by what it feeds on, and must be met by new excitation. This rivalry of explosive and paroxysmal journalism is carried on with too little sense of responsibility and verification, and while the notable manifestations are exceptional and it would not be just to say that the infection has extended through journalism, it is nevertheless true that its injurious influence is widely perceptible.

In one important and conspicuous respect the development of journalism as a business has palpably improved its character. It has produced a greater degree of independence than ever distinguished it before. In the earlier days political and official advertising might be a large item in the income of a newspaper. Its monetary value gave it potency in controlling editorial policy. But in the expansion of the business under modern conditions official patronage is unimportant compared with general commercial advertising, and its relative decline in value has greatly reduced its power of influencing newspaper expression. The favor of the public is far more advantageous than

that of the party manager. It brings popular circulation and consequently business advertising, and there is less concern about the crumbs that fall from the official table. Even party journalism has greatly advanced in independence. While standing as the recognized exponents of party principles and policies the important party papers have become much more free in their judgment of men, methods and measures. A more critical standard is applied and a more rigorous public accountability is enforced under which there has been a visible improvement in general civic administration.

Under the same influences distinctive independent journalism has increased. It professes to have no connection with any party and disclaims a representative party position. Its theory is that it addresses itself not to party sentiment but to independent public judgment, and its claim for support is based on its journalistic quality without regard to political association. It is the extraordinary advance of newspaper-making as a business that has rendered independent journalism on a large scale possible. A quarter of a century ago it would have been difficult to name more than two or three important examples in the United States. Now there are many conspicuous and successful papers which are thus classed, and even more significant of the change in journalism is the greater independence of the party journals already referred to. Indeed, in essential independence, which consists of free judgment and candid expression on public questions, the line of demarcation between the better class of party papers and the professedly independent papers is scarcely perceptible and it would be hard to distinguish between them.

There has been a signal advance in other directions. Against the false and meretricious tendencies to sensationalism which have been indicated must be placed a higher and broader treatment of all the varied interests of life. In news collection the journalism of to-day is as much ahead of that of 1875 as the railroad express is ahead of the stage coach. It spares no expense, reaches everywhere, sends its correspondents to all parts of the world, employs the best experts and specialists, caters equally to the lover of literature and the lover of sports, keeps pace with scientific discovery and development, rivals the best periodicals in commanding the most famous writers and artists, makes its own special missions of public service, reports all business, social, educational, philanthropic and religious movements, and, in short, treats whatever concerns mankind as within its boundless domain. Its range, enterprise and comprehensiveness are a constant marvel. With all its faults the breadth, fullness and accuracy which are combined with so much celerity of action attest a thoroughness of organization and extent of resources never before equalled.

There are marked differences, however, in its development in different lands. Continental journalism in Europe is of a type quite distinct from English journalism, and that again is unlike American. In Paris the news is not the conspicuous feature of the newspapers. It holds a subordinate place and is limited in its quantity. Literary and dramatic criticism and political discussion command the first rank, and

the feuilleton is a popular and important part. Literary excellence with a flavor of characteristic French wit is the dominant trait. The Parisian type with variations, generally soberer and heavier, is the prevailing Continental model. English journalism is weightier and more enterprising in news. It covers the field of international politics and war with special thoroughness. It lacks the variety and vivacity of American newspapers, but within its chosen and more limited range it is more complete. Its reports of parliamentary proceedings and of important political, social and scientific meetings are copious and intelligent, and its discussions are distinguished by sobriety and information.

In life, spirit, minuteness of news gleanings, emphasis of display and preponderance of personal flavor American journalism far outstrips all others. It does not surpass, oftentimes does not equal, British journalism in the presentation of great events, but in the multiplicity of its news of all sorts not only from its own country, but from all the world, there is no approach to it elsewhere. Its dominant tone is a light and airy freedom. There is a manifest tendency even on the part of the most respectable newspapers to avoid being heavy. The general aim is to be breezy, pungent and picturesque, and this often leads to the flippancy which is remarked in American papers. Perhaps the public taste which is thus indicated and cultivated will serve to explain in part why there are no serious and masterful weekly journals of literary and political discussion in the United States like the *Spectator* and the *Saturday Review*, and why even the monthly periodicals run chiefly to fiction and light matter. There are excellent trade journals of a high grade, showing a demand for the searching and careful treatment of special interests, but outside of these immediate representatives of the stupendous material enterprises of the land, the trend is toward the lighter vein.

Somewhat analogous is the explanation of the fact that journalism has grown more impersonal in its sources and impress. It is no longer distinguished by the great overshadowing personalities which marked it a generation ago. No editorial chief puts his individual stamp on a paper as Horace Greeley did, with his controversial power, his moral earnestness and his incisive force, which seemed to make the whole paper breathe his spirit and speak his voice. There are no successors to Raymond, Bennett, Weed, Bowles and Dana. The late Henry Watterson was the last survivor of the old school of journalists. The difference is due, however, not so much to the lack of men as to the change of conditions. In its immeasurably wider range and larger demands the great journal of to-day is the product of no single mind, but of a vast organization and of a whole galaxy of stars. The elder journalism was largely political pamphleteering. The later journalism is the complete mirror of daily life, and no individual throws so great a shadow across its comprehensive face.

It is a question much mooted whether journalism has declined in influence. It never was as universally read as now; it never was so much a common practice to read several newspapers; and whether in this multiplicity of

reading and frequent contrariety of representation as serious an impression is made as when the appeal was more earnest and less divided may well be doubted. The editorial page has not actually fallen off in interest and importance; on the contrary, it is all in all better written, more varied and more instructive than when it had more of a polemic character. But in the broad development and great advance of the news departments the editorial page has receded in relative importance, and the drift to the light treatment of topics has tended to detract from its distinct and superior position. The greater absorption of the public mind in multiplied interests operates in the same direction. In the stress of modern business life and in the variety of diversions the body of readers have less time to follow public discussion. If it be true, as it often is, that the favorite journal does the thinking for its readers on current questions, it is equally true that many of the questions take less hold than when life was more simple and feeling more tense. When the press is in substantial accord on any public matter, except where party tradition rules, it generally carries the public judgment, and united expression makes it invincible; but when there is a discord of journalistic voices little heed is apt to be paid to any. The power of the press in its aggregate force, in the sweep of its activities and in a certain apprehension of its publicity, has steadily augmented; but at the same time the impression that it is too intrusive, too little restrained, too little governed by a just sense of responsibility, has grown and has impaired the influence it would otherwise exert.

It remains true, however, and probably grows more true with the decadence of other influences, that the press is the most effective force in protecting the moral and social well-being of the community. It is the belief of many observers that under our modern conditions the weight of mere authority is declining. In the intense strife and eagerness of the times the efficacy of the old standards in enforcing true principles and restraining wrongdoing grows weaker. With this advance of individual assertion and independence the power of public opinion is becoming the surest defense of social and business morality. The blaze of publicity gives a protection which nothing else furnishes. In the financial and social world there is a wide margin along the shadowy and undefined line between law and lawlessness, between ethical duty and questionable interest where the search-light of exposure is the only security. Much would be done under cover of darkness which fears the light. Despite a freedom which often degenerates into license the press is thus recognized not only as the most effective safeguard against political and administrative debauchery but as the best bulwark against that social and business misconduct which becomes a public offense.

The relation of the counting-room to the editorial department involves both the business and the ethics of journalism. The business side cannot be disregarded. In its ultimate purpose it is a commercial proposition. Newspapers are published to make money. The counting-room considers both income and outgo. It adjusts expenditures to receipts. It properly

studies to augment revenue in every legitimate way. But while newspapers are business enterprises they are such with recognized limitations and obligations. They are not simply business undertakings but public representatives, and the former object, while consistent with the latter, is subordinate to it. The foundation of the newspaper is the confidence of the public. It is the history of yesterday and the interpreter and teacher of to-day. In the very nature of the relation it assumes distinct obligations. It is bound to give the news and to treat public questions in absolute good faith. The counting-room is warranted in doing business in every way compatible with the fulfilment of that duty, but in all legitimate journalism it is a fundamental rule that editorial opinion and news publication must be beyond the reach of any questionable influence. The editorial department must be entirely free from commercialism. Public confidence and moral power depend on full faith that editorial and news conduct is honest, fearless and upright. The publication of a newspaper, like any other enterprise, is founded on business principles; its sphere or field of operations, whether general, political, literary or other, is chosen; the relation of counting-room and editorial-room in organizing and maintaining it on a sound business basis is of the most intimate character; but when the general lines of the enterprise are determined, the independence and integrity of the editorial management and fidelity to its declared aim as a public representative within its chosen sphere are absolutely indispensable. This rule lies at the foundation of the whole ethical code of journalism.

The question of the training and qualifications of the journalist has assumed new interest and importance both through the general growth of the profession and through special movements for its advancement. Schools or chairs of journalism have been established in a few instances and in a limited way, and the munificent endowment by Mr. Pulitzer of a college of journalism in Columbia University—the first large and distinct project of the kind—has presented the proposition in a practical and definite form. There are two systems of thought on the subject. The first holds that the best and most efficient school of journalism is the newspaper office. It believes that the true journalist is born, not made; that knack, aptitude, native talent, the sense of news and proportion lie at the foundation of success; and that the most useful training is that of actual experience. It does not dispute that broad education and culture are essential to the journalist, and recognizes that particular studies, like history, political economy, the fundamentals of law, social science and kindred matters, may be followed with special advantage. But it urges that these may be gathered from the general college course, and that the college or university has no distinctive professional knowledge to teach journalists in the special sense that it has to teach lawyers or physicians. The technicalities of the newspaper art—a suitable style, phonography, proof reading, the treatment of news and the like—are best acquired in practice, and the rest is the quickest and surest application of knowledge

which is power, and of instinct or intuition which in dealing with public intelligence and currents is no less power, to the activities of the world.

The other system of opinion is represented in the scheme and scope of Mr. Pulitzer's College of Journalism. It is based on the theory that the journalist can be prepared for his vocation, like the lawyer, by a special course of study adapted to its requirements. Its aim and its tendency are to elevate and dignify the profession, and to establish a higher standard both of obligation and of performance. It seeks to teach not merely the technical necessities in newspaper-making but the true ideals of public service to which the newspaper should be dedicated, and the wide range of knowledge with which the journalist should be equipped. This includes style, ethics, law, literature, history, sociology, statistics and particularly the principles and methods of journalism. It embraces an examination and comparison of existing newspapers by experts, an exposition of the functions of editor, correspondent and reporter, and the production of an experimental journal under the necessary limitations with its practical application of the instruction. In its main features this plan is an enlargement of the ordinary academic course directed to a particular end, and it is claimed that the establishment of such a college with liberal endowment would not only provide a large body of trained journalists but would set a standard for the profession.

On the whole, notwithstanding the faults of the "new journalism," the position of the press in the public estimate is increasing. One evidence of this truth is the more liberal character of libel legislation. In some States the greater license has prompted efforts at more restrictive measures, but the general trend of legislation has been toward reasonable liberality with just accountability. The prevailing movement has been to provide reparation for any wrong or injury that may be done, to assure just restitution for actual damages, but not to permit punitive damages to trammel the free expression of opinion. Journalism is advancing and is acquiring a higher position and recognition as a distinct profession. With the enlightened spirit of the age and with the marvelous agencies of instant and united expression the power of public opinion steadily grows, and the journalist is its medium and prophet. See AMERICAN NEWSPAPERS; PERIODICAL LITERATURE.

CHARLES EMORY SMITH,

Late Editor of 'The Press,' Philadelphia.

JOURNALISM, Agricultural. As with the press in general, agricultural journalism has grown in this country as nowhere else in the world. This is due, of course, to the widespread literacy of our people, as compared with the general agricultural populations of other modern countries. But it is also due to the demands of the new farming and rural life. The extension of the reading habit among farmers has undoubtedly furthered the rapid expansion of agricultural journalism. Its growth in this country really began about the middle of the last century, but since 1900 there has been a tremendous growth in the number, the variety, the circulation and the influence of the farm papers and journals of all kinds.

This period of most rapid expansion is coincident with that of the extension of public education and the various phases of rural progress. Until recent years there have been few books that treated the farmer's problem from his point of view. Moreover, he had to learn the habit of dependence upon books. The farmer now can find specific help in books, for farm experience is rapidly being put into print. The present-day farmer who would succeed among his fellows must read. The reading habit has naturally developed. The experience of the experiment stations as indicated by their «lists» shows the demand for the ordinary bulletins growing quite rapidly, but not so universal as could be wished. The extension departments have sought to encourage the reading habit by the development of farmers' reading courses. The agricultural colleges have also widely cultivated the habit of «correspondence» in their constituents.

The sympathetic editor of an agricultural paper has an even greater opportunity. An important phase of the work of the farm journals is nearly always this «correspondence» feature. They also bring to the farmer digests of the books and bulletins elsewhere appearing which might be of interest to him. They thus furnish to the farmer practically the only literature adapted to his needs and tastes except the technical agricultural books and bulletins. The proportional scarcity of books and papers in the farm home is a result of the lack of adaptation of general literature to the farmer's special needs. The daily newspapers—and especially the weeklies and semi-weeklies—have to some degree adapted their columns to the needs of their farmer readers, by, in many cases, pages and supplements which practically amount to farm papers. The farmer's need for suitable reading matter is thus rapidly and successfully being met.

In 1924 there were listed in the various annual newspaper directories nearly 600 special agricultural journals. From 1918 the number had increased by nearly 200 (50 per cent). This rate of increase was much more rapid for this and other special journals and periodicals than for the press of the country in general, and is indicative of the adaptation of the American press to the special needs of the various classes and occupations of our people. The number of those which the directories call agricultural publications, and which have some agricultural material and interest, but are often agricultural only in name, is much larger, probably 900. This listing does not include the very large number of government bulletins and other publications which might legitimately be added. The «weekly» seems to be the most popular form of American journalism, in general, for of the 25,000 newspapers and periodicals published nearly two-thirds, or more than 16,000, are weeklies. This is even truer of the more specialized periodicals, and specifically of the agricultural press. «Quarterlies» are rare, as are «bi-monthlies»; but «monthlies» are fairly common; the «semi-monthly» or «bi-weekly» much less so; the «weekly» by far the most common. There are also «dailies», but they are only in the form of brief bulletins of information. The weeklies also have by far the larger circulations, indicating that they best meet the popular de-

mand. The agricultural press has specialized with amazing rapidity, showing the intensive special and local interest of the farmer. The number, variety and circulation of the papers that cannot be classed as agricultural, but are devoted to forestry, horticulture, floriculture, stock and stock-raising, irrigation, poultry, beekeeping, dairying, as well as to a multitude of still more special interests, steadily increases.

The foreign language press appears also in agricultural journalism. There are already a score and more in Hungarian, Japanese, Swiss-Italian, Bohemian, Hollandish, Finnish, Swedish, German, Polish. The largest number hitherto are in German.

No attempt has been made to arrive at the total circulation of farm papers. There are a half dozen at least with sworn circulation of more than 500,000; probably upwards of 50 have a circulation of more than 100,000. The more special and local papers naturally have the smallest circulation. The more important of the farm papers thus equal in circulation the greatest city dailies. In general, they are largely confined to State areas for their respective constituencies, but a number are regional in influence. There are none that approximate to the status of a national farm journal. There has, however, been some approach to such in the case of the *Orange Judd Farmer* with its various regional editions.

Thus, while its latter-day expansion has been most noticeable, agricultural journalism has nevertheless had a long history and a sound development and evolution. It is by no means of such recent appearance as is so often suggested. While there was no sign of an agricultural paper until the beginning of last century, the rise of the agricultural societies at that time brought such into existence in the form of the regular organs of the societies for collecting and distributing information. Such were, however, rather in the nature of a «record» than in the form of a «journal.» Probably the first of these was the *Massachusetts Agricultural Repository and Journal* of the Massachusetts Society for Promoting Agriculture, established in 1793.

Agricultural journalism in this country is usually, however, dated from 1819 when the *American Farmer* was established in Baltimore as an eight-page weekly. This lasted till 1862. Other notable early farm papers were *The Plough Boy*, of Albany, New York; the *New England Farmer*, of Boston, 1822; the first *New York Farmer*, New York, 1827. Few of these early publications have survived. The *Country Gentleman*, originating in 1853, has probably had the longest continuous history. But a number of farm papers, appearing first about the middle of the century, still survive, and have given a substantial nucleus to the rapidly expanding agricultural press. From 1850 the development has been rapid. Independent horticultural papers began to appear about 1835 and other special journals rapidly followed. Agricultural journalism has doubtless played its part in the adjustments necessary under the rapidly changing conditions of agriculture and rural life in the United States. Its prints have doubtless taken the place of traditional experience, so important a factor in agricultural progress in other lands. It has served as a neces-

sary and invaluable link between the progressive leaders of American agriculture in the government offices, the colleges, and on the farm, and the general farm population. It has served to distinguish and dignify the farmer's occupation and life by its recognition of his special needs and tastes. Its greatest lack at present seems to be that it is still largely devoted to the technical and economic aspects of the farmer's life and fails to devote sufficient attention to the social. This defect is, however, being remedied by the development of special farm home and family journals.

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JOURNALISM, Class Publications. The story of American journalism is incomplete without consideration of the influence of magazines as distinguished from newspapers, of technical and trade papers, foreign language papers, college periodicals, and a long line of what are called "Class Publications," ranging all the way from religious papers and women's magazines to medical journals and anarchistic periodicals. All these are a part of journalism, and each class contributes its share to the molding of public thought and action. For it must be admitted that the republic is largely governed by its journalism; this has come to be the accepted mode of interchanging thought, and when many great newspapers or magazines or periodicals act in unison on definite lines, public thought is molded, and action results. We have to judge our public men mainly by what the press says of them; we have to form opinions of our industries largely by the trade papers; we have to measure the work of colleges in considerable degree by the sort of college papers they create. The great divines, the great surgeons, the great scientists have to be made by the press or remain unknown. So, whether we like it or not, we are forced to the conclusion that the charge that America is governed by its press is largely true; hence the great importance of keeping that press pure and devoted to the highest ideals. Magazines of nation-wide circulation have come to exercise a strong influence on national policies and the government at Washington. They thus serve as a wholesome balance to the influence of a local press that must largely represent its own locality rather than the people as a whole. The religious press has a wide influence on the development of the churches, which are generally recognized as the saving element of every community that makes for advance in morality and ideals. The agricultural press is almost as numerous, and has undoubtedly had a large share in the movement to make farming more profitable and to rescue agriculturists from handing all their profits to middlemen. Through public agitation and development of granges, selling societies and the Farmers' National Congress the farmer has taken his rightful place as a business man, and seems likely to maintain it in spite of industrial trusts. The technical and trade press has had a tremendous development, belonging almost wholly to the period since 1880. Every great industry has numerous important periodicals, and the minor industries have from one to half a dozen each. These have come to wield a wide influence,

and are very informative to the outside world, as well as the special industry concerned. They afford a field for discussing and thrashing out differences of opinion in the trades, both as to business measures and mechanical and technical problems. This sort of journalism has reached its highest development in America, and has done a large share toward bringing together the active men in each industry and helping them to work on harmonious lines. College journalism was long looked upon as amateurish, and merely illustrative of boyish effort and imitation; but it is now apparent that it has found a deeper and fuller meaning. In the colleges are developed most of the men who are to be the leaders of the coming business generation. Their college papers are the trying-out ground, where young college men first test themselves against the world, and begin to learn something of the conditions of life and society under which each must work out a place for himself, if at all. They afford a much needed expression of the younger minds, and dull is the college professor who cannot gain lessons from the sprightly scribbles of his own students. The foreign language press was regarded by most journalists as being a wholly negligible feature in American journalism until the advent of the war. Then it became apparent that visitors to our shores who clung to their mother tongues were largely influenced in their views by our foreign language papers, and that many of them were quite un-American in tone and utterance. It is well that the eyes of the great public were opened to what is the average character of foreign language papers, because an understanding of their position and influence carries its own remedy for any abuses of the power to influence those on American soil, where Liberty should be maintained as the national watchword and the ideals of the Fathers of the Republic upheld at all costs. The number and importance of these various class papers can be ascertained by reference to the article on NEWSPAPERS, AMERICAN. They are a permanent addition to Journalism, and must be reckoned with in any broad-minded effort to judge of the influence of the press on the peoples of the New World.

CHARLES H. COCHRANE,
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JOURNALISM, Columbia University School of, an institution endowed with \$2,000,000 by the late Joseph Pulitzer, owner of the *New York World*, and the forerunner of many similar institutions in the United States. With the advance of civilization and general culture and intelligence, the demands upon the journalists of the present day are constantly becoming greater, and this college is the recognition of the importance and place of journalism as a profession, and a practical endeavor to equip those who adopt it, by a course of thorough instruction, for its exacting and laborious duties. Mr. Pulitzer considered the creation and rendering effective of public opinion a task of which the press alone is capable of successfully accomplishing. The College of Journalism is therefore a means to an end—to raise the character and standing of journalism, to increase its power and prestige, and to attract to the profession

men of the highest capacity and the loftiest deals, who, because of special training, will advance the profession to a higher standard of thought and action. This school was the first institution of the kind in the world. It opened Sept. 30, 1912 and its degrees of B.Lit. in Journalism and M.S. in Journalism are available to both men and women. Candidates for admission must have completed two years in a recognized college; those not so equipped are eligible for a proficiency certificate only. Those properly equipped may obtain the first degree in two years. The B.Lit. in Journalism is a requisite for candidacy for the second degree. While there are universities and colleges which give courses in various phases of journalism, no other school is so well endowed, none has a course giving so much time to the solid study needed for the training of the journalist, and the school has also the crowning advantage of a metropolis like New York in which to train its students in reporting by sending them to see and to write upon events as they come in the life of a great city. Attendance on first-night performances is employed in training for dramatic criticism. This practical training in the work of the journalist comes in the last two years, but of the four years' course four-fifths are devoted to the study of history, constitutional law, political science, economics, statistics, American and European literature, etc.; a mastery of either French or German is insisted on. In 1918 the school was placed on a full professional standing.

JOURNALISTS, The (*Die Journalisten*). This comedy of four acts in prose was played for the first time in 1852, the year in which it was written. It originated in the personal experience of its author, Gustav Freytag, who from 1848-1870 had been a partner and joint-editor of the *Grenzboten*, a German weekly for literature and politics. The scene is laid in a provincial town in Germany, and the significance of journalism in politics is dealt with, as well as the character and the social position of journalists. In the electoral campaign between the Conservative and the Liberal party—the pivot of the plot—victory for Oldendorf, the candidate of the Liberals, is won through Bolz, one of the editors of the Liberal paper *The Union*. Bolz is the hero of the play. He can get along well with any one, he is never upset, least of all when he pretends to be, he is humorous and peppery, he can even venture on risky enterprises, for his heart is and always remains in the right place. In his person the journalists are also granted their esteemed place in modern society, for Adelheid Runeck, a young lady of wealth and noble birth, gives him her hand in marriage.

The strength of this comedy lies largely in a clearly drawn up scheme, a quick, witty dialogue, a smooth delineation of characters, and a sympathetic insight into human nature whose weaknesses are smiled at rather than satirized. Consult G. Freytag's works, vol. 3, pp. 1-112 (Leipzig, 1887-88); English translation in *The German Classic*, vol. 12, pp. 10-108; Seiler, F., *G. Freytag*, pp. 81-91 (1898); Stern, A., *Studien zur Literatur der Gegenwart*, vol. I, (1905); Lindau, H., *G. Freytag* (Leipzig 1907).

EWALD EISERHARDT.

JOURNEY AROUND MY ROOM (*Voyage autour de ma chambre*). We owe this "exquisite morsel," as the French admiringly call it, to a happy accident. Xavier de Maistre (1763-1852) having been arrested as a young officer for duelling was sentenced to confinement for six weeks. He wrote 42 chapters, one for each day, descriptive of his wanderings around his room. He had no thought of publishing the work, but his elder brother, the philosophic writer, Count Joseph de Maistre, secured its publication. It is a little the irony of fate that, as David says in his introduction to the volume containing it in the French series known as the *Library of the Bibliothèque Nationale* the younger brother's unvalued literary diversion promises to outlive the elder brother's philosophic speculations. The book is known particularly for its sympathetic treatment of the duality of man's nature. His animal body is in prison, but his mind can go wandering far beyond the walls. His mind can occupy itself satisfactorily while his animal is doing the ordinary things of life. His mind watches his animal make coffee in the morning, and sometimes, lost in happy memories or occupied with poetic distractions, permits the animal without sense in such matters to burn itself with the fire irons or do something equally foolish. A favorite mode of journeying, since he is not hurried, is while seated on an armchair to lift the forelegs a few inches from the floor and then, swinging backward and forward, to move gradually, almost imperceptibly, around the room. Almost invariably his animal makes his way toward the portrait of a charming lady that hangs on the wall. Thirty years after *The Journey Around My Room*, its author wrote *The Nocturnal Expedition Around My Room* in the same vein and, surprisingly enough, with equal charm. Consult Sainte-Beuve, *Portraits Contemporains*; *Bibliothèque Nationale Collection des Meilleurs Auteurs Anciens et Modernes* (complete works in single small volume); Eng. translation, Philadelphia 1829; New York 1907.

JAMES J. WALSH.

JOURNEY'S END. A powerful drama (prod. 1929) by Robert C. Sherriff, giving a realistic account of four day's existence in the French trenches, drawn from the author's experiences during World War I. The play concerns the struggle of a small group of British officers to maintain their morale as the monotony of interminable waiting gives way to battle conditions of constant tension and shock. A quiet realism is combined with homely humor to make the officers vividly real, and each has his own way of reacting to ever-present death: drunkenness, passive acceptance, stolidity, or temporary cowardice. The action opens as Captain Stanhope's company takes over a portion of the front line. In the course of the play, Osborne, his trusted subaltern and friend, is killed in a raid on German trenches, while Raleigh, who had worshipped Stanhope as a boy, is paralyzed by a shell wound. Stanhope and his remaining men are left to face a full-scale attack. The mood of the drama is keyed to a low, unheroic level so that it becomes a tribute to the inexorable courage of men engaged in an unbearable struggle which, for them, has lost its meaning. The play was an outstanding success in

several European countries and the United States during the 1930's.

JOUTEL, zhōō-tel', **Henri**, French pioneer in America: b. Rouen, c. 1645; d. there after 1723. When La Salle was preparing for his final expedition to Louisiana in 1684 (he had so named the valley of the Mississippi two years before), he induced Joutel, a man of long service in the French army, to accompany him as his aide. The 4-ship expedition sailed from La Rochelle in July 1684. Due to bad reckoning caused by a stormy passage they missed the mouth of the great river where La Salle had planned to establish his colony, and made a landfall far west of it in Matagorda Bay on the Texas coast. A colony was planted on a site in neighboring Lavaca Bay: from that base La Salle made several exploring expeditions in search of the Mississippi, often leaving Joutel in command of the colonists. Twice during these absences the colonists conspired to kill Joutel and seize control, but both attempts were thwarted. Finally, La Salle decided to abandon the Lavaca Bay site and on Jan. 12, 1687 the entire party started its northeasterly journey to the Mississippi. They had crossed the Brazos River on March 19 when the conspirators foully murdered La Salle. At the time, Joutel was absent from the camp and on his return he feared a like fate. However, the murderers spared him and also La Salle's nephew and his brother Jean Cavelier. With six companions Joutel crossed what is now Arkansas and at Arkansas Post (q.v.) found two of Tonty's men in charge of the hunting station there. They escorted the retreating party to the Mississippi and found Indian guides to lead them north to Tonty's Fort St. Louis on the Illinois River, where they arrived September 14. Tonty was absent on a war expedition, and when he returned in October Joutel and Jean Cavelier for various reasons concealed from him the news of the assassination of La Salle. After passing the winter at Fort St. Louis, in May 1688 they left for Quebec via the Great Lakes-Ottawa River route. Late that year Joutel sailed for France, returned to his native Rouen and lived there until his death. Joutel, it appears, was the only member of La Salle's party in whom the explorer had implicit confidence, and his account of La Salle's last expedition, published in 1713, is the only trustworthy contemporary narrative. It is entitled, *Journal historique du dernier voyage que feu M. de la Salle fit dans le Golfe de Mexique, pour trouver l'embouchure et le cours de la Rivière de Saint Louis, qui traverse la Louisiane*. Consult de Villiers, Marc, *L'Expédition de Cavelier de la Salle dans le Golfe du Mexique* (Paris 1931).

JOUVENEL, zhōōv-něl', **Henry de**, French journalist and statesman: b. Paris, April 2, 1876; d. there, Oct. 4, 1935. A brilliant journalist, he became editor in chief of *Le Matin*, and from 1927 to 1932 edited *La Revue des Vivants*. Elected to the Senate for Corrèze in 1921, he sat in the group of the democratic left. He was minister of public instruction in Poincaré's second cabinet in 1924. A delegate to the League of Nations in 1922 and 1924, he succeeded General Sarraill as high commissioner to Syria in 1925, continuing in that post for two years. Secretary general of the Congress on Disarma-

ment held in Paris in 1931, the next year he was appointed ambassador to Italy. He signed the four-power pact of Italy, Great Britain, France and Germany at Rome in 1933. His books include *La vie orageuse de Mirabeau, Huit cent ans de Révolution Française, 987-1789*; *La Paix Française*. His brother **ROBERT** (1881-1924), also a journalist and editor of *l'Oeuvre*, wrote *la République des camarades* and *le Journalisme en vingt leçons*.

JOVANOVIC, yō-vā'nō-vich, **Jovan** ("Zmaj"), Serbian journalist and poet: b. Novi Sad (Neusatz) 1833; d. 1904. He studied law in Pest, Prague and Vienna and returned to his native place to practice his profession. There he drifted into journalism, becoming editor of the *Javor* (*Maple*) in 1861. In 1862 he returned to Pest to study medicine in which he graduated six years later. All the while he continued to contribute to the press humorous and other articles in prose and verse which attained considerable popularity. In 1864 he founded the *Zmaj* (*Dragon*), which served as the medium of publication of some of his best work. Two years later his successful play *Saran* was presented. His growing reputation led him more and more insensibly into literature. Part of this activity resulted in the founding of *Starmali*, a humorous periodical (1878), and *Neven*, a juvenile publication (1880). In addition to his extensive creative poetical and prose work Jovanovic was a very active and successful translator into Serbian of the literary productions of other poets. Good editions of his own works were published in 1880 and in 1887.

JOVELLANOS, hō-vēl-yā'nōs, **Gaspar Melchior de**, Spanish statesman and writer: b. Gijon, Spain, Jan. 5, 1744; d. Vega, Spain, Nov. 27, 1811. He was educated at the universities of Oviedo, Avila and Alcalá, became in 1770 a member of the Royal Academy, in 1778 chief justice of the Criminal Court at Madrid and in 1780 a member of the council of state. Subsequently he was for a time Minister of Justice, but in 1801, through the agency of his enemy, Don Manuel Godoy, was imprisoned at Majorca. Released at the French invasion (1808), he joined the patriots and became a member of the supreme junta. His writings are various, including treatises on political economy, a dissertation on English architecture, a *Memoir on Law Applied to Agriculture*, the tragedy *El Pelayo*, and *El Delincuente Honrado* (*The Honorable Delinquent*), a comedy.

JOVELLAR Y SOLER, hō-vā-lyār', **Joaquín**, Spanish statesman and soldier: b. Palma de Majorca, 1819; d. 1892. He saw military service in Cuba (1842-49); later in Spain (1849-53); and afterward in Morocco (1853-60). In all of his military campaigns he made a brilliant record and rose to the rank of colonel. In 1863 he was made brigadier-general and the following year he became assistant Secretary of War. He left Spain on the proclamation of the republic; but he was induced to return and was appointed governor-general of the island of Cuba, a position he gave up to become Minister of War under Alfonso XII. But he was needed in Cuba and he again became governor-general of the island.

He was very largely instrumental in bringing the Ten Years' War to a close (1878). On his return to Spain he became captain general of the Spanish army and head of the Spanish forces in the Philippines.

JOVIANUS, jō-vī-ā-nūs, **Flavius Claudis**, Roman emperor; d. Dadastana, Bithynia, Feb. 17, 364 A.D. He was originally captain of the household troops of the Emperor Julian, whom he accompanied in the disastrous campaign against the Persians in which Julian lost his life (363 A.D.). After Julian's death he was proclaimed emperor by the troops, but could only extricate his army by ceding to the Persian monarch the five provinces beyond the Tigris. He was succeeded by Valentinianus I.

JOVINIAN, an Italian who flourished in the 4th century, was an opponent of the regular form of the Christian Church. He was one of the first great protestors in that body. He opposed the celibacy of the priests, though he never was himself married. He also opposed fasting and penance and the adoration of the Virgin. Driven out of Milan for his opinions he went to Rome, where he and his followers were excommunicated (388). Jovinian was banished to the island of Boa by the Emperor Honorius, where he remained until his death in 406, yet his ideas continued to spread. But the activity of Augustine and Jerome, their strong defense of the ascetics, their thunders against Jovinian and the support of the temporal authorities were ultimately successful in stamping out the Jovinian sect. Consult Karnack, Adolf, *History of Dogma* (Boston 1894-1900); Jerome, *Adversus Jovinianum* (Nicene and Post-Nicene Fathers, Vol. VI, 2d series, New York 1893).

JOWETT, Benjamin, English scholar and educator; b. Camberwell, London, 1817; d. Oct. 1893. He studied at Oxford, was ordained in 1842, and became regius professor of Greek in 1855. In 1855 he published a notable commentary on the Epistles of Saint Paul. In 1860 he contributed an essay "On the Interpretation of Scripture" to the celebrated volume *Essays and Reviews*, for which he was tried on a charge of heresy before the Chancellor's Court, but was acquitted. In 1870 he became master of Balliol College, and in 1871 published his most important work, a translation of the *Dialogues of Plato*, of which a fifth edition was issued in 1892. He subsequently published translations of Thucydides (1881) and the *Politics of Aristotle* (1885). He was vice-chancellor of the university (1882-86). Consult *Life and Letters* (edited by Abbott and Campbell, 1897); Tollemache, Benjamin Jowett, *Master of Balliol* (1895).

JOWETT, John Henry, English clergyman; b. Halifax, England, Aug. 25, 1864; d. near Croydon, England, Dec. 19, 1923. He was educated at the universities of Edinburgh and Oxford; ordained a Congregational minister 1890; minister of Saint James Church, Newcastle-on-Tyne 1890-95; Carr's Lane Church, Birmingham, England, 1895-1911; Fifth Avenue Presbyterian Church, New York City, 1911-18; returned to England in 1918 and became pastor of Westminster Chapel, London. He is author of *Apostolic Optimism and Other*

Sermons (1901); *Brooks by the Traveller's Way* (1902); *Thirsting for the Springs* (1903); *Yet Another Day* (1905); *The High Calling* (1909); *From Strength to Strength* (1910); *Our Blessed Dead* (1910); *School of Calvary* (1910); *The Transfigured Church* (1910); *The Preacher; His Life and Work* (1912); *Easter Morning* (1912); *Spirit of Christmas* (1914); *The Whole Armor of God* (1916).

JOWF, or **DJOWF**, jowf, oasis in northern Arabia between the Syrian and Shammar deserts. It is also the name of a district of South Arabia. The oasis, which is really what its name implies, a fertile spot in the desert, produces a variety of products peculiar to the climatic conditions of that region, among them being excellent dates. Pop. about 40,000. The capital, El-Djof, contains about 4,000 people.

JOY, Charles Arad, American chemist; b. Ludlowville, N. Y., 1823; d. 1891. He was educated at Union College and the Harvard Law School. He also studied at Berlin and Göttingen and received the degree of Ph.D. from the latter in 1852, and after a few years spent as professor of chemistry at Union, became in 1857 professor of chemistry at Columbia, where he remained for 20 years. In 1866 he became president of the Lyceum of Natural History and was long one of the editorial staff of the *Scientific American*.

JOY, George William, English painter; b. Dublin, Ireland, 1844. He was educated at Harrow and studied art at Kensington, at the Royal Academy and under Charles Jalabert and Bonnat, at Paris. His principal pictures are *Young Nelson's First Farewell*; *Wellington at Angers*; *Prince Charlie and Flora MacDonald*; *The Death of General Gordon*; *Princess Alice of Albany* (for Queen Victoria); *Reverie*; *Truth*; *Joan of Arc*; *Lear and Cordelia*. He also painted many portraits. He died Oct. 28, 1925.

JOY, Thomas, American colonist; b. Norfolk, England, 1610; d. Boston, 1678. Upon emigrating to America in 1635 he established himself in Boston as an architect and builder and in 1657 erected the townhouse of Boston, the earliest civic structure of any note in New England. In 1646 for his share in the *Child Memorial*, protesting against both the civil and ecclesiastical government of the Bay Colony, he was fined and imprisoned.

JOYCE, Isaac Wilson, American clergyman; b. Coleraine Township, Ohio, Oct. 11, 1836; d. Minneapolis, Minn., July 28, 1905. He was educated at Hartsville College of the United Brethren Church. In 1859 he entered the ministry of the Methodist Episcopal Church, joining the Northwest Indiana Conference. He served as pastor of several important churches and a term as presiding elder. He was elected bishop in 1888. In 1886 he was fraternal delegate to the Canadian Methodist Church. He was president of the Epworth League (1900-04). In 1892 he had supervision of the missions in Europe; Mexico in 1895; China, Japan and Korea (1896-97); South America (1903-04). He was a preacher of an intense evangelical type. Consult Sheridan, Wilbur F., *The Life of Isaac Wilson Joyce* (Cincinnati 1907).

JOYCE, James, Irish poet and novelist: b. Dublin, Feb. 2, 1882; d. Zurich, Switzerland, Jan. 13, 1941. Educated at Clongowes Wood College, Belvedere College, and at University College, Dublin, he published as his first work a small volume of lyrics, *Chamber Music* (1907). In 1914 appeared *Dubliners*, followed two years later by *A Portrait of the Artist as a Young Man*. In 1918 he published *Exiles*, a play. Meanwhile he had left Ireland and lived in Rome, Zurich, Trieste, and Paris. *Ulysses*, published in Paris in 1922, created a furor among French, British, and American critics, some of whom declared it a work of genius. Though circulating freely on the Continent, *Ulysses* was banned in Britain and the United States. Its publication in unabridged editions in the United States was finally authorized in 1933, when Federal Judge John Munro Woolsey ruled that the book was not immoral. Joyce's last novel *Finnegans Wake* (1939) is generally considered inferior to *Ulysses*.

JOYCE, Robert Dwyer, Irish poet and physician: b. in County Limerick, September 1836; d. Dublin, Oct. 23, 1883. In 1866 he went to the United States and practiced medicine for several years in Boston, Mass., contributing during that period to the *Pilot* and other Irish journals. He published *Ballads, Romances, and Songs* (1872); *Deirdre*, a much-admired epic poem, which appeared anonymously as one of the *No Name Series* (1876); *Legends of the Wars in Ireland* (1868); *Fireside Stories of Ireland* (1871); *Blanid*, a poem (1879).

JOYEUSE ENTREE, zhwa-yûz' ân-trâ', the name given to the important privileges of the estates of Brabant and Limbourg, with Antwerp, which the dukes of Brabant were obliged to swear to maintain before they were allowed to enter the ducal residence, from which circumstance the name was taken. It dates from Jan. 3, 1354, from the entry of Duke Wenceslas into Louvain. The most important of these privileges was that the people were released from an allegiance whenever the duke should attempt to violate their rights. So important were these privileges considered that many women went to Brabant to be confined there, that their children might enjoy the rights of a citizen of Brabant.

JOYNES, Edward Southey, American educator: b. Accomac County, Va., March 2, 1834; d. June 18, 1917. Educated at the University of Virginia and at Berlin, in 1858 he was appointed professor of Greek at William and Mary College; from 1866 to 1875 he was professor of modern languages at Washington College, Va.; and subsequently he held chairs in Vanderbilt University and the University of Tennessee. In 1882 he became professor of modern languages in South Carolina College (Columbia), retiring as professor emeritus in 1908. He published textbooks of French and German.

JOYNSON-HICKS, join's'n-hîks' **SIR WILLIAM**, 1st Viscount BRENTFORD OF NEWICK, British statesman: b. June 23, 1865; d. London, June 8, 1932. The son of Henry Hicks, he assumed the additional name of Joynson on his marriage in 1895 to Grace Lynn Joynson. He was a Conservative member of the House of Commons for Northwest Manchester (1908–

1910), Brentford (1911–1918), and Twickenham (1918–1929). In 1919 he was created a baronet, and on his retirement from public life in 1929 he received a peerage. He became postmaster general and paymaster general under Andrew Bonar Law in 1923, and when Stanley Baldwin became prime minister later that year he continued in the Cabinet as minister of health; with formation of Baldwin's second administration in 1924 he was made home secretary, an office he continued to occupy until 1929. As home secretary, in 1927 he directed the raid on the London quarters of the Soviet Trading Corporation which resulted in the severance of diplomatic relations between Great Britain and Soviet Russia. He was prominent in the affairs of the Church of England, serving as president of the National Church League. In 1928 he published *The Prayer Book Crisis*, setting forth his strong opposition to the Prayer Book measure at that period under consideration by Parliament and ultimately rejected. Both in the House of Commons and as chairman for 15 years of the Automobile Association of Great Britain he promoted much motor legislation.

JUAN DE FUCA, hwän' dě fōō'kă, **STRAIT**, an ocean passage between Vancouver Island, British Columbia, Canada, and Clallam County, Washington. It is 100 miles in length and some 15-20 miles wide. The strait connects the Pacific Ocean with the Strait of Georgia on the north and Puget Sound on the south.

JUAN FERNANDEZ, hwän' fēr-nān'dās, a group of three islands in the south Pacific Ocean 400 miles west of Chile and belonging to that country. Más a Tierra is the island nearest to land; Más Afuera lies 100 miles to the west of it; and Santa Clara (Goat Island), the smallest, is off the southwest coast of Más a Tierra. The island of Más a Tierra, 12 miles long and $3\frac{3}{4}$ miles wide, is of rugged configuration; El Yunque (the anvil), its highest peak, rises 3,225 feet above sea level. Cumberland Bay, or Bay of San Juan Bautista, on the north side is the principal harbor, but the water is too deep for safe anchorage in bad weather. It was used as a penal colony prior to 1840. It has a population of about 300 which lives mainly by supplying water, wood, and food to passing vessels. Parts are fertile and produce vegetables, peaches, figs, and grapes; originally there was considerable sandalwood, but it has all been taken. Plenty of fish are obtained from the surrounding waters and also lobster (*Palinurus frontalis*), which is an important source of subsistence and also is canned for export in two factories. In 1914 a wireless station was erected. Más Afuera, six miles long by three and one half miles wide, is very mountainous, its highest summit being 5,300 feet above the sea. It presents fine scenery and its remarkable flora makes a most distinctive landscape. The islands consist of Tertiary volcanic rocks in thick layers comprising a succession of lava flows and tuffs, mostly horizontal. The climate is more humid than that of Valparaíso, with mild winters, moderate summers and frequent gales. The islands had no original wild land animals, but the flora is unique. Some Magellanic types have been found, high on Más Afuera. One remarkable plant, *gunnera*, has leaves 10 feet in diameter. The islands were discovered about 1563 by Juan

Fernández (1536–?1602), a Spanish navigator, but no permanent settlement was made on them or nearly 200 years. Alexander Selkirk (q.v.), who remained alone on Más a Tierra from 1704 to 1709, was the original of Daniel Defoe's *Robinson Crusoe*. The Spaniards placed a garrison on the islands in 1750; and sovereignty passed to Chile when that country achieved independence in 1818.

JUAN MANUEL. See **MANUEL, JUAN.**

JUANA, hwä'nä, **LA LOCA** (JOAN THE MAD), queen of Castile: b. Toledo, 1479; d. Tordesillas, 1555. The daughter of Ferdinand and Isabella, in 1496 she married Philip the Handsome, archduke of Austria, to whom she bore the future Emperor Charles V. She was passionately devoted to Philip, and his infidelities caused a deep melancholy not alleviated by her accession to the throne (1504). His sudden death (1506) induced her insanity.

JUAREZ, hwä'räs, **Benito Pablo**, Mexican statesman: b. San Pueblo Guelatao, Oaxaca, March 21, 1806; d. Mexico City, July 18, 1872. Born of Indian parents, he was admitted to the bar of his native state in 1834 and became a judge in 1842. He served as governor of Oaxaca from 1847 until 1853, when he was exiled by Antonio López de Santa Anna. Returning to Mexico in 1855, he joined the revolutionists under Juan Álvarez, by whom he was made minister of justice. He issued the "Ley Juárez," a reform measure which abolished the special courts and reduced the power of the army and the church. It was the first of a series of reforms culminating in the famous anti-clerical Constitution of 1857. In December 1855 Ignacio Comonfort succeeded Álvarez in the presidency. Juárez resigned his justice portfolio and was again made governor of Oaxaca. In September 1857, the new liberal Constitution being in force, Juárez was elected president of the Supreme Court of Justice, making him the legal successor to the presidency. When Comonfort turned against the Constitution, lost power and fled the country (January 1858), Juárez was obliged to fight the Conservatives in the sanguinary War of the Reform. Not until January 1861 did he re-enter Mexico City; in March he was elected to a four-year term. The country bankrupt, he was obliged to suspend payment on the foreign debt. Great Britain, Spain, and France joined in a plan of intervention. On Juárez' agreement to protect the interests of foreign debtors, the British and Spanish troops evacuated the country, but France proceeded to a war of conquest. Juárez was driven to the extreme north and in 1864 Maximilian assumed imperial power. Upon the interference of the United States, however, the French troops were withdrawn in 1867, and in the same year Maximilian was executed and Juárez elected president. He was re-elected in 1871. His vigorous and liberal policy was of great benefit to the nation, and he has sometimes been called the "Mexican Washington."

JUBA, jōō'bā or **IUBA**, yōō'bā, the name of two kings of Numidia. **JUBA I** (d. April 6, 46 B.C.) was the son and successor of Hiempsal II. When open hostilities broke out between Pompey and Caesar he sided with the former and de-

feated the forces of Caesar under Gaius Scribonius Curio in 49 B.C. He also extended aid to two of Pompey's other backers, Scipio and Cato the Younger. After the Battle of Thapsus, which marked the definite defeat of the Pompeian party, he committed suicide. **JUBA II** (d. about 19 A.D.), son of Juba I, was taken by Caesar to Rome and there given an excellent education. He was reinstated in his kingdom by Augustus in 30 B.C., and the next year he married Cleopatra Selene, daughter of Antony and Cleopatra. In 25 B.C. he transferred from Numidia to Mauretania. Apparently the exchange suited him, as he was very much given to literary pursuits. Although all his works have been lost, he is known to have written extensively on philology, Roman history, and painting. He was especially interested in the languages of Assyria, Libya, and adjoining countries.

JUBA (Italian GIUBA, jōō'bā), river in East Africa, some 1,000 miles in length. It is formed in the mountains of south central Ethiopia by the junction of several streams, among them the Dawa, Ganale Dorya, and Webbe (Web). The Juba flows in a southerly direction across southwest Italian Somaliland to enter the Indian Ocean. At its mouth is the seaport of Chisimaio (Kismayu). By an agreement concluded in 1891, the river was the boundary between the British and Italian spheres in East Africa; this status terminated in 1925 with the transfer of Jubaland (q.v.) to Italy.

JUBA, town, Anglo-Egyptian Sudan, in Equatoria Province, on the Bahr el Jebel (Nile) River, distant 1,090 miles by water from Khartoum (Khartum). It was the capital of the former Mongalla province. Until the Lado Enclave (q.v.) was incorporated into the Anglo-Egyptian Sudan in 1910, it was a Belgian river port. Juba is the terminus of the river traffic up the Nile and the point from which highways radiate into Uganda, Kenya Colony, and the Belgian Congo.

JUBAL, jōō'bāl, or **JABAL**, son of Lamech and Adah. According to Genesis 4:21, he was the inventor of the reed-flute and harp, or lyre, and the father, or predecessor, of all those who play upon such instruments.

JUBALAND, jōō'bā-länd, or **TRANS-JUBA** (Italian OLTRE GIUBA, òl-trä jōō'bā), southernmost portion of Italian Somaliland, bounded on the north by the Juba River and on the south by Kenya Colony. Until 1925 it constituted a province of Kenya Colony. Italy administered it as a separate colony until 1926, when it was absorbed into Italian Somaliland. The port of Chisimaio (formerly Kismayu) is the chief town. Jubaland has an area of more than 30,000 square miles, most of it, with the exception of the valley of the Juba, being semi-arid. The Somali inhabitants, numbering some 130,000, have large numbers of camels and cattle.

JUBAYL, jōō-bil' (French DJEBEIL), coastal village, Lebanon, 20 miles north of Beirut (Beyrouth). As *Byblos*, it was an ancient maritime city of Phoenicia, the chief seat of the worship of Adonis and of Astarte. In Ezekiel 27:9 the town is called *Gebal*, the townsmen being experienced ship calkers, or carpenters of the ships

of Tyre. According to Strabo their work was much interfered with by robbers who infested the Lebanon range. Pompey not only destroyed the robber nests, but delivered the city from a tyrant. The remains of a temple of Baalat, a royal necropolis of the 14th century B.C., and a citadel have been discovered. There are also extensive remains dating from the Roman period and from the times of the Crusades. Byblos was noted in antiquity for its large exports of papyrus to Egypt, and the Greeks borrowed its name as their term for the inner bark of the papyrus, the paper made from it and, by extension, a book, *biblos*. From Greek *biblos* is derived the English *Bible*.

JUBBULPORE, júb'al-pōr, or **JABALPUR**, city, Republic of India, in the State of Madhya Pradesh, situated near the Nerbada River 150 miles north-northeast of Nagpur. It is in a rocky basin, the gorges about which have been converted into artificial lakes of great beauty. There are technical and industrial schools, and a college affiliated with Saugor University. The city is an important trade center and rail junction. Carpets, cotton goods, and pottery are the principal manufactures; cement is made on a large scale in the vicinity. Pop. (1941) 178,339.

JUBILEE, an observance among the Jews (from Heb. *Jobel*, the "ram's horn") which recurred every fiftieth year; the land was to rest, as in sabbatical years; land and houses in the open country and in unwall'd villages reverted to their original owners or the heirs of such; all slaves were to go free. The law as a whole was distinctly theocratic; it vindicated the absolutism of Jehovah; it meant that Hebrews were the servants of Him, and could not therefore continue to be the slaves of their fellowmen; the land belonged to Him, and was only lent to the Hebrew tribes and families, who could not therefore be driven out by any human arrangement.

In the Roman Catholic Church a jubilee occurs every 25th year in which the Pope proclaims a remission, from Christmas to Christmas, of the penal consequences of sin, on condition of repentance, restitution, and the performance of certain pious works. The first Roman Catholic jubilee was given in 1300. Ordinarily, the term is applied to any 50th anniversary.

JUBILEES, *Book of*, a pseudepigraphal production written in Hebrew by a Pharisee sometime between the accession of Hyrcanus to the priesthood 135 B.C. and his breach with the Pharisees 105 B.C. It is an attempt to rewrite the history of Israel and include with it a vast amount of traditional lore. The object of the author was, as Robert Henry Charles states it, to "defend Judaism against the attacks of the Hellenistic spirit that had been in the ascendant one generation earlier and was still powerful, and to prove that the law was of everlasting validity." The book has been known by other titles: *Jubilees*; *The Little Genesis*; *The Apocalypse of Moses*; *The Testament of Moses*; *The Book of Adam's Daughters*, and *The Life of Adam*. It consists of 50 chapters, and besides the historical element it introduces the Messianic hope of Israel. It was translated from the Hebrew into the Greek and may also have been

in the Aramaic. Four manuscripts of the book are preserved in the Ethiopic.

JUCHEREAU, zhüsh-rō', **Louis**, **SIEUR DE SAINT-DENIS**, a French Canadian soldier; b. Quebec, 1676; d. 1731. He became a soldier in Louisiana, where he served, on several occasions, as intermediary between the representatives of the government and the Indians. He became commander of the fort at the mouth of the Mississippi (1700). Later on he went to Mexico, where he arranged a treaty with the viceroy for the encouragement of commerce (1714-1716). Three years later he was in command of a band of Indians at the battle of Dauphin Island, where the Spaniards were defeated (1719). He became commander of Natchitoches fort in 1720, and 11 years later he defended it from an attack of Naches Indians whom he overwhelmingly defeated.

JUDAEA or **JUDEA**, jōōdē'ā, the name for the southern division of Palestine under the rule of the Persians, Greeks, and Romans. It succeeded the kingdom of Judah (see **PALESTINE**). Judaea was bounded on the north by Samaria, the northern boundary extending approximately from north of Joppa to the Jordan at a point some 13 miles north of the Dead Sea; on the east it was bounded by the Jordan and the Dead Sea; on the southwest by the Sinai Peninsula; and on the west by the Mediterranean.

JUDAH, jōō'dā (Hebrew **YEHUDAH**, celebrated), fourth son of Jacob and Leah, and the traditional ancestor of the tribe which bears his name. In Genesis he is said to have advised the selling of Joseph into Egypt. That the Biblical account given of Judah was derived from traditional history there seems little doubt; but these latter accounts appear to have been presented in a manner to suit the readers of the times in which the commitment to paper was made. Just how much, therefore, of the account of Judah that has come down to modern times is historical, semi-historical, or purely traditional or mythical it is very hard to determine. According to the Biblical record Judah married a woman of the Canaanites by whom he had three children, Er, Oman, and Shelah. By his daughter-in-law, Tamar, he also had two sons, Pharez and Zarah. See **JUDAH**, **TRIBE OF**.

JUDAH or **JEHUDAH**, jē-hū'dā (called **HA-NASI**, hā-nā-sē', that is, the Prince, or **HA-KADOSH**, hā-kā-dōsh', that is, the Holy; called also **JUDAH I** and often simply **RABBI**), Jewish scholar and expounder of the law; b. 135?; d. ?220. He was the son of Simon ben Gamaliel II, and on the death of the latter he became president of the Sanhedrin, to which he had been admitted in his youth on account of his extensive knowledge of Jewish law. His wealth, position, and talents enabled him to control, in a thoroughly arbitrary manner, all the actions of the Sanhedrin, which he made the center of much of his religious activity. His home at Sepphoris became the shrine to which thousands went in search of knowledge. From there he exercised a strong and widely extended influence. There he lectured, and the textbook which he wrote for these lectures ultimately acquired such an authoritative position that it was used as the basis for the compilation of the Talmud.

JUDAH, Ben-Samuel (Arabic Abu'l-Isan), a Spanish-Jewish poet and philosopher: b. Castile, about 1086; d. after 1140. Graduating in medicine he practised his profession for a while, but he seems to have finally abandoned it to devote his time to philosophy and poetry. His reputation as the greatest Hebrew poet of the Middle Ages was gained largely through his poems of longing for the home of his race. Finally he set out from Toledo in 1140 with the avowed intention of visiting Jerusalem, a journey from which he never returned. In his own day and for many years afterward he was looked upon as a great philosopher; but his fame to-day rests almost entirely upon his poetical work; for he was too much of a poet to be a deep and formal philosopher or theologian. His principal philosophical work is 'Al-Kha-zari,' which purports to expound, in Arabic, the principles of Christianity, Islam and Judaism and to present the philosophy of Aristotle. There are two translations of this work in German, the better of which is by Hirschfeld (Breslau 1885). Many of his poems have also been published in German and Emma Lazarus has translated some of them into English (Boston 1899). Others are also to be found in 'Songs of Exile,' by Nina Davis (Philadelphia 1901). Consult Kaufman, David, 'Jehuda Helewi' (Breslau 1877).

JUDAH, Ben Samuel, Jewish mystic: b. Speyer, probably about the middle of the 12th century; d. 1217. His school at Ratisbon, founded in 1195, became noted far and wide and was attended by many pupils destined to become famous and influential. So noted did he become as a moralist and mystic that many works appear to have been ascribed to him in which he had no part. Among the numerous works attributed to him, he appears to be the author of 'Sefer ha-kabod' (the 'Book of the Divine Majesty'); 'Sefer Hasidim' (the 'Book of the Pious'); and a commentary on the Pentateuch. The latter, which has been lost, is known only by references to it in more recent works and in citations from it in later commentaries. The 'Book of the Pious' which considered his most important work, is partly a treatise on morality and mysticism; in which a fine distinction is made between the 'divine Majesty' which is revealed to angels and men, and the 'divine Being,' who is not so revealed to humanity because he is too infinitely great for all human conception. This work became the text for the Judah sect which placed great stress on this fanciful distinction between the 'divine Majesty' and the 'divine Being.' Critics are now inclined to dispute Judah's authorship of all of this work except the first sections. Judah Ben Samuel had a great influence over his followers, not so much on account of the originality of his thought and the accuracy of his reasoning and philosophical speculations as because of his deep earnestness, his loftiness of aspiration and his real nobility of character. This influence was increased by his strong desire and tireless efforts to discover the great truths of the Bible and the hidden meaning of its priests, prophets and philosophers. Consult Grätz, 'Geschichte der Juden' Vol. VI, Leipzig 1894; Schlossinger, 'Judah Ben-Samuel' (in the 'Jewish Encyclopedia,'

New York 1914); Zung, 'Literaturgeschichte der Synagogalen Poesie' (Berlin 1864).

JUDAH, Tribe of, one of the Israelitish clans most frequently mentioned in the Bible. It is supposed to have had a strong Canaanitish admixture; and by some critics the story of Judah's marriage to a Canaanitish woman is believed to be but an anecdotal method of recording this fact of the introduction of foreign blood into the family. In the days of David the tribe of Judah comes, for the first time, into prominence. The book of Joshua states that the land of Judah extended from the Mediterranean to the Dead Sea, including in its territory the plain of the Philistines. It bordered on the land of Benjamin on the north. The land of Judah, of a rugged, hilly character, tended to separate the tribe from the other Israelitish clans; and this may account for the fact that it does not receive prominence earlier in Biblical history. The kingdom of Judah, brought into prominence by David, does not correspond in extent to that recorded in the book of Joshua, since the latter embraced the Jerahmeelites, Kenites, Kenizzites, part of the original tribe of Judah and some other small tribes. At no time in history is there a verified record of the tribe of Judah having actual possession of the plain of the Canaanites; though they may have done so in prehistoric times and have still preferred a claim against it. This seems probable from the aforementioned statement in the book of Joshua. The tribe of Judah, which was among the Jews who were carried into Egypt, seems to have prospered there, for when the Israelites left the latter country, it outnumbered all the other Jewish tribes, having 74,000 adult males, this being 12,000 more than Dan, the next most numerous tribe. After the hardships of the long journey home through the desert, the tribe of Judah still numbered 76,500 able-bodied men of fighting age. The clan totem of the tribe of Judah was a lion's whelp, which was later on converted into a standard with the motto "Rise up, O Lord, and let thine enemies be scattered!" In the person of David, the tribe of Judah became the ruling clan; but this superiority was disputed by Ephraim, especially after the removal of the head sacerdotal functionaries to Jerusalem; and the result was the setting up, by the latter, of a separate ecclesiastical establishment. Judah lost its identity as a tribe under Rehoboam and Jeroboam, when the ancient kingdom was divided and the clan of Judah became identified with the kingdom of Judah, which included the tribes of Judah and Benjamin and a large body of Levite priests. Consult Haupt, 'Studien' (Giessen 1914); Meyer, E., 'Die Israeliten und ihre Nachtbarstämme' (Halle 1906); Schmidt, N., 'The Jerahmeel Theory and the Historical Importance of the Negeb' (in the *Hibbard Journal*, 1908, pp. 322-342); Wellhausen, 'De gentibus et familiis Judæorum' (Göttingen 1869); Winckler, 'Geschichte Israels' (Berlin 1895). See JUDAH; BENJAMIN; JEWS AND JUDAISM.

JUDAISM. See JEWS AND JUDAISM.

JUDAIZERS, ju'dā-iz'-erz, certain early Christian converts who insisted on retaining the rites and ceremonies of the Jewish law. They were naturally Jews; and among the concessions that they insisted should be made to them

as new Christians was permission to observe the rite of circumcision. The Apostolic Council decided that these Jewish customs were not binding on Christians under the new gospel dispensation. Paul opposes the views of these Jewish converts very strongly in the letter to the Galatians. See SAINT PAUL; EBIONITES; NAZARENE.

JUDAS, JUDA, or JUDE, one of the brothers of Jesus. Practically nothing is known concerning him save the meagre details found in the New Testament and what has come to us from tradition. Some scholars assume that, according to John vii, 7, Judas and the other brethren did not believe in the Messiahship of Christ until after the Resurrection (Acts i, 14). That he was a married man we would infer from Paul's writing (1 Cor. ix, 5). Scholars ascribe to him the authorship of the Epistle of Jude wherein he speaks of himself as "the servant of Jesus Christ." See JUDE, EPISTLE OF.

JUDAS, or JUDE, one of the 12 apostles. He appears in the apostolic catalogue of Saint Luke as "Judas of James" that is, son or brother of James; in Saint Mark's and Saint Matthew's list he is styled Thaddæus, of which Judas may be an abbreviation. Nothing is known of his life except what is ascribed to him by widely spread tradition. According to Western legend he went in company with Simon the Canaanite to evangelize the Persians, and closed his life by martyrdom.

JUDAS BARSABBAS, the companion of Silas in the bearing of a decree from the apostles and elder brethren to the brethren in Antioch, Syria and Cilicia, according to Acts xv, 22-23. He has been supposed, without satisfactory proof, to have been a brother of Joseph Barsabbas. All that is definitely known of him is that he was a member of the Jerusalem church, that he was a man of influence in his community and that, furthermore, he was looked upon as a prophet.

JUDAS OF GALILEE, a Jewish popular leader who led an uprising against the Roman power about 6 or 7 A.D. According to Acts v, 37, he was killed and his followers dispersed; but Josephus, who records the insurrection, which according to the Acts was at the time of the census, states that Jacob and Simon, two sons of Judas, were put to death; but he gives no information as to the fate of Judas himself.

JUDAS ISCARIOT, is-kär'i-öt (that is, of the family of Cariot in the tribe of Judah). One of the 12 apostles of Christ. He is styled the son of Simon, and was treasurer to the little company that attended Jesus, whom he betrayed, with a kiss, into the hands of the Jewish priests, for 30 pieces of silver. His divine Master addressed to him the mild reproof—"Dost thou betray the Son of Man with a kiss?" Remorse drove him to suicide.

JUDAS MACCABÆUS, Jewish warrior and national hero, who flourished in the 2d century B.C. He was one of five sons of Mattathias, a Joarib priest of Modin, not far from Jerusalem. The father, in 168, killed the officer in command of the troops sent to Modin to overthrow the Jewish religion, and, with his five sons, took to the mountains. On

the death of Mattathias, shortly afterward, Judas became the recognized leader of the revolt, which he managed with very great skill and military wisdom which enabled him to defeat, in succession, four Syrian armies, each of them much stronger and better armed than his own mountaineers. After three years' successful warfare he again established the headquarters of the Jewish faith in the temple at Jerusalem. Judas Maccabæus disputes with David the honor of being the greatest of the Jewish national military heroes. In so high esteem was he held that the memory of his great achievement was kept green by means of a commemoration service in the annual Feast of Dedication. His brothers, too, seem to have been highly honored on account of the heroic part they had all played in the war of liberation; and one of them, Jonathan, became high priest. Under the leadership of Judas Maccabæus, the Jews undertook extensive military campaigns against their enemies on all sides, and with signal success which resulted in the conquest of some and the punishment of others. These warlike expeditions reached into the territory of the Arabs. In 164 B.C. Lysias, the guardian of Antiochus V, determined to punish this activity of the Jews; and to this end he marched against Jerusalem with a picked force of 100,000. Judas found himself unable to oppose a force so much larger than his own. But chance came to his aid in the shape of troubles in Antioch which forced the return of Lysias. Taking advantage of the circumstance and the occasion, Judas secured from the Syrian government recognition of the rights of the Jews to exercise their own religious worship. In the eyes of his followers, this was perhaps his greatest victory. But not content with this, he attempted to secure the recognition of the political independence of his country. But the intrigues of the Syrian party in Jerusalem and the quarrels among his own people weakened his own power in both a moral and a military sense. Though he signally defeated a Syrian army under Nicanor and fought a very successful campaign (163-62 B.C.) the discontent at home increased and tended greatly to weaken his organization and military strength to resist a second and still more formidable Syrian army, against which he fell in battle at Elasa (161 B.C.). He was succeeded by his brother Jonathan, the high priest (q.v.). See MACCABEES.

Bibliography.—Josephus, 'Antiquities, XII'; 'Maccabees I and II'; Schürer, Emil, 'History of the Jewish People in the Time of Jesus Christ' (5 vols., New York 1896); Stade, 'Geschichte des Volkes Israel' (Berlin 1888); Streane, 'The Age of the Maccabees' (London 1898); Weirs, H., 'Judas Makkabæus' (Freiburg 1897); Wellhausen, 'Israelitische und Jüdische Geschichte' (Berlin 1898).

JUDAS MACCABÆUS, an oratorio of Handel which was first produced in London in April 1747; and in Boston, United States, in December of the same year. See HANDEL.

JUDAS TREE, a tree so named because of the tradition that upon one of this family Judas hanged himself. The *Cercis siliquastrum*, the common European Judas tree, is to be found throughout southern Europe and Asia; while the American member of the family,

ercis canadensis, is a much hardier tree and found in northern regions. It is, however, very similar to the Old-World species. The dark-veined wood of both species takes a fine polish. Two other species are known in the United States, the *Cercis occidentalis*, found in the West, and the *Cercis chinensis* introduced to the country from Japan.

JUDD, Charles Hubbard, American psychologist: b. Bareilly, British India, 20 Feb. 1873. He came to America in 1879; graduated, A.B., from Wesleyan University, 1894; Ph.D., Leipzig, 1896. He was professor of psychology at New York University, 1898-1901; professor of psychology and pedagogy, University of Cincinnati, 1901-02; instructor, assistant professor, and professor of psychology and director, psychological laboratory, Yale, 1902-09; professor and head of the department of education, and director of the School of Education, University of Chicago, after 1909. His publications include: 'Genetic Psychology for Teachers' (1903); 'Psychology' (rev. ed. 1917); 'Psychology of High School Subjects' (1915); 'Evolution of the Democratic School System' (1918); 'Silent Reading' (1923).

JUDD, Garritt Parmlee, Hawaiian statesman: b. Paris, Oneida County, N. Y., 23 April 1803; d. Honolulu, Hawaiian Islands, 12 July 1873. In 1828 he went to Honolulu as a medical missionary, and in 1842 was appointed recorder and interpreter to the native government. He organized the first Hawaiian ministry for Kamehameha III in 1843, and held the portfolio of finance from 1844 until his retirement in 1853. He placed Hawaiian finance on a sound basis.

JUDD, Norman Buel, American statesman: b. Rome, N. Y., 1815; d. 1878. He began the practice of law in Chicago in 1836, where he soon became city attorney and was a member of the State legislature from 1844 to 1860. Coming over from the Democrat to the Republican party in 1856, he became prominent in local politics and chairman of the Illinois State Central Committee, a position which gave him great influence at the Second National Convention at Chicago which, in 1860, nominated Abraham Lincoln for the presidency. Lincoln sent him, the following year, as Minister to Russia, where his influence, for over four years, prevented the recognition of the Southern Confederacy. On his return home (in 1865) he was re-elected to Congress for two successive terms; following which he became collector of United States customs at Chicago. In his capacity of railway and corporation lawyer, in which he stood in the fore rank, he was closely connected with the projection and development of most of the great railways of the United States in his day. He was also a very active figure in the legislature. He took prominent part in the impeachment of President Johnson and he was the author of the act which created inland ports of entry and provided for the shipment, in bond, of goods to the interior.

JUDE. See **JUDAS**, one of the brothers of Jesus.

JUDE, Epistle of. One of the so-called Catholic (i.e., general) epistles of the New Testament, whose author names himself "Jude,

a servant of Jesus Christ, but a brother of James," thus reverently contrasting his blood-relationship to James, the head of the Jerusalem church (Acts xv, 13; xxi, 18; Gal. ii, 9, 12) with his higher relationship to Jesus (Mark iii, 34-35), who also was his and James' own brother (Matt. xiii, 55; Mark vi, 3; Gal. i, 19; 1 Cor. ix, 5) according to the flesh. The author describes his document as being an exhortation to his readers to "contend earnestly for the faith once for all delivered unto the saints," (3) and as taking the place of a treatise of a more general doctrinal character, on which he was engaged when occasion arose for this more direct form of address. That a dangerous situation had developed quite as ominous as that of which Paul forewarned both the Ephesians (Acts xx, 29-31) and the Philippians (iii, 18-19) "with tears," is obvious from the heightened tone of indignation, grief and loathing in which he refers to these latter day "wolves" who have "entered in, not sparing the flock." By what new system of theological doctrine the contagious immorality of the intruders was supported, the author assumes as too well known to his readers to require any detailed statement, but only a delineation of its fruits in resultant character and retribution. Only a precarious basis can, therefore, be found for any identification of the heresy with that of the Cainites, the Carpocratians or other Gnostic sects of the post-apostolic age. Similarly indecisive as to a late date are the citations in verses 9 and 14f. from such apocryphal books as *The Assumption of Moses* (7 to 30 A.D.) and *The Book of Enoch* (written before 170 B.C.); the necessary uncertainty as to the local habitat of the readers, whether Palestine, Syria or the Diaspora; and, the intimate relation of this document to the text of 2 Peter, in casting suspicion upon the claim made in verse 1 as to authorship.

In its biting invective and hortatory fervor this epistle equals if it does not surpass Galatians and 2 Corinthians. The interlopers are characterized as ungodly persons who, professing godliness, have "crept in privily" to the "love-feasts" of the readers (iv, 12) only to "turn the grace of our God into lasciviousness" and to "deny our only Master and Lord, Jesus Christ" (consult Phil. iii, 18-19); as pretending to have received divine revelations, which their conduct demonstrates to have been vile, lascivious dreams (8); as flouting all authority, even that of angels, and railing at sacred mysteries which their carnal minds cannot understand (8-10); as continually swayed by ungodly lusts (16, 18) and sensual rather than spiritual in their judgments (19); as comparable therefore, to sunken reefs in a ship's channel or a foaming surf (Is. liii, 20) casting up mire and dirt; to clouds that bring no rain, or to fruit-trees fruitless in autumn, and fit only for winter's fire-wood (12) and to meteors disappearing in eternal night (13). The dissolute character and the impending doom of these corrupters of the Church, prefigured in the punishment of Israel in the wilderness (5); the fall of the angels (6); the fate of Sodom and Gomorrah (7); the legend of the archangel Michael (8-9); and the history of Cain, Balaam and Korah (11); were foretold in the prophecy of Enoch (14-15) and were explicitly

confirmed to them by the apostles of Christ (17-18). Re-enforced by this tragic warning, the epistle ends with a tender exhortation and a triumphant doxology (20-25).

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JUDEICH, yōō'dīk, **Johann Friedrich**, German forester: b. Dresden, 1828; d. 1894. After extensive experience in the forestry departments of Saxony and Bohemia he finally became director at Tharandt, where he made his name widely known in forestry. Among his published works are 'Die Forsteinrichtung' (1903); and contributions to Lorey's 'Handbuch der Forstwissenschaft' (1887-88). He wrote for numerous periodicals and edited Ratzeburg's 'Die Waldverderber und ihre Feinde' (7th ed., 1876; 8th ed., 1885-95); and other publications.

JUDGE, **William Quan**, Irish-American theosophist: b. Dublin, 1851; d. 1896. Coming to America in 1864 with his father he studied law and entered into legal practice with him in New York city in 1872. He was one of the founders of the Theosophical Society of America, to which he finally gave up all his time, traveling, as its secretary, throughout Europe and the American continents. See THEOSOPIHY—THE THEOSOPHICAL SOCIETY.

JUDGE, public officer to whom is committed the exercise of judicial power of the state in the administration of justice in its courts. It is his province to decide questions of law and in cases in which facts are to be decided by a jury to instruct the jury as to the law which is applicable and to point out to them what the exact questions for their determination are. (See JURY). He pronounces the sentence, or enters the judgment, of the court.

The word is not a technical one. The officers of the King's Court, when that tribunal began to take definite shape, were known officially as justices. Until the recent Judicature Acts in England it was customary formally, as well as popularly, to speak of the judges of the superior courts at Westminster, though the members of the courts of King's Bench and Common Pleas were properly justices, and of the Court of Exchequer barons, and at the present time the members of the Supreme Court of Judicature, including the Lord Chancellor, the Lord Chief Justice, the Master of the Rolls and the Lords of Appeal are spoken of as the judges of that court. English judges are appointed by the Crown (this patronage being exercised by the Lord Chancellor, who is the head of the legal profession) from the leaders of the bar, and hold office during good behavior.

In all the Federal courts, in all the higher courts of the several States and in most of the inferior courts, judges must be trained in the law, though lay judges were common in the State courts of first instance until quite recent times. Federal judges are appointed by the

President, by and with the advice and consent of the Senate, and hold office during good behavior, being removable only by impeachment. Any Federal judge who has served for 10 years and is 70 years of age may retire on full pay for life. The choice of judges in the States is determined by the State constitutions. As a general rule they are elected for a term of years. The fear was quite generally expressed at the time the tendency to make the office an elective one became general, that judges so chosen would be inferior to those appointed by the State governors, but does not seem to have been justified by the result. In most of the State courts the small salaries paid and the limited terms of office prevent the leading members of the bar from seeking, and in many cases from accepting, the office of judge.

A judge must be impartial and any interest in the cause or the parties will disqualify him from presiding at the trial. While in office he is precluded from practising before the court of which he is a member, and he is commonly, and should be universally, precluded from practising before any court. He is not answerable to any suitor for the correctness of his rulings or decisions, and in the absence of positive fraud is not answerable in damages for any decision he may render. Every judge has power to punish for contempt of court in case of acts committed during the court's session, and even of such acts committed outside the court, though this latter power is to be exercised with care, and its limits are naturally not defined with certainty. For the peculiar functions exercised by American judges as interpreters of the Federal and State constitutions, see JURISDICTION.

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JUDGE-ADVOCATE, a title given the prosecutor in a court-martial or military commission. In the United States the judge-advocate is generally a member of the judge-advocate-general's department. In Great Britain the duties of judge-advocate usually devolve upon a detailed staff officer, or the prisoner's commanding officer. The prisoner has a right to call on any regimental officer to speak in his behalf. See LAW, MILITARY.

JUDGE-ADVOCATE-GENERAL, the head of the United States army bureau of military justice. He has the rank of brigadier-general and officiates as the legal adviser of the Secretary of War and of the Department of War. All European armies have a similar functionary and a similar department. The Judge-Advocate-General is the legal custodian of all general courts-martial, military commissions, courts of inquiry and papers relating to title of land under control of the War Department, except the public buildings and grounds in the District of Columbia.

JUDGE LYNCH. See LYNCH LAW.

JUDGES, Book of. This book in the Hebrew Bible derives its name from the deliverer whose exploits it records. In its present form

the book is the product of that active era of historical interpretation inaugurated by the publication of Deuteronomy in 621 B.C. (See DEUTERONOMY). The narrative of the struggle between the Hebrews and the earlier inhabitants of the possession of the land furnished material especially adapted to exemplify the doctrine of Deuteronomy, that Israel's prosperous possession of the land was contingent upon her faithfulness to Jehovah. It was one of the first tasks of the historians who were dominated by the thought of the great law book to edit the stories of the Judges and compose the book now contained in chapters ii, 6-xvi. They had at hand for their purposes a history of the early heroes, which may have formed a part of the great, composite work already compiled from the histories of Judah and Ephraim (JE), or may have been a separate work. In any case, the earlier document contained some of the oldest and most authentic historical traditions of the nation. The Song of Deborah (Chap. v), for example, is the oldest considerable composition preserved in the Hebrew Bible. It must have been sung immediately after the events which it celebrates. Taking this price-collection of hero tales, that had been gathered and combined in the three centuries preceding their time, the Deuteronomic editors introduced a heading and conclusion for each tale designed to enforce the great doctrine which they found so well exemplified in the varying fortunes of the times. When Israel forgot Jehovah and turned to other gods, her enemies prevailed; when she returned to him in penitence, a deliverer was raised up and peace secured throughout his rule. They introduced their readers to this new interpretation of the old stories by a summary statement of the facts and principles (ii, 6-iii, 6) which they were to find fully illustrated in the separate stories and their interpretation of each. Seven principal stories form the main body of the work, those of Othniel, Ehud, Deborah and Barak, Gideon-Jerubbaal, Abimelech, Jephthah, Samson. Of these leaders, Abimelech is styled a prince and king, rather than a judge; in truth the brief hereditary rule set up by this man and his son may be counted the first attempt at establishing a monarchy in Israel. Between the longer narratives short notices of six other judges are inserted. The little that is told of them is in the characteristic language and style of the editors. Perhaps they were included in order to bring the number of the judges to 12. To this original book, edited not far from 600 B.C., there was prefixed as an historical introduction an ancient account of the entrance into Canaan and of the failure of the tribes to dispossess the inhabitants (i, 1-ii, 5), and there were added two appendixes (xvii-xviii, xix-xxi) which did not receive the editorial interpretation characteristic of the body of the book. The former of these, telling of the migration of Dan to the northern borders of Israel's territory, is obviously a very old narrative, but the latter, the story of the outrage at Gibeah, gives many indications of a relatively late date.

Fortunately the exilic editors confined their interpretations of the history to the framework which they composed and left the stories themselves in their ancient form, so that they afford the student of Israel's early political, social, and

religious development a mine of information and preserve for the general reader the rugged spirit of the pioneer days of struggle against many and varied dangers. The chronology of the book belongs to the editorial framework; it is based on the theory that the heroes ruled united Israel, whereas the stories themselves reveal the fact that the judges were local leaders in their different tribes and districts. Their lives may have been, in some cases, contemporaneous. An historical use of the book requires careful discrimination between its earlier and later elements, varying in date of composition by as much as 500 years.

From a literary point of view, the older portions of the book give some of the best specimens of rapid, picturesque narrative, full of human interest and of simple loyalty and faith toward Jehovah, which make Israel's early prose so vital, while the Song of Deborah ranks as one of the finest examples of a victory ode preserved in the early literature of any language. On the other hand, the completed book is a monument of great interest in the art of historical composition. It is perhaps our first important example of a deliberate interpretation of events long past from the standpoint of a conscious philosophy of history. The distinction so clearly visible between the naïve stories themselves and the rigid, solemn interpretation of the editors marks a great transition in the development of historical writing in Israel. Since Israel was the first people to develop a true historical literature, this transition is an important landmark in the story of the world's historical writing.

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JUDGES, Recall of. See RECALL.

JUDGES' CAVE, a crevice between some large fallen rocks on West Rock, New Haven, Conn., now a municipal park, which in 1661 was a temporary hiding-place for Goffe and Whalley, two of the English regicides.

JUDGES OF ISRAEL (Hebrew, *shōphētim*), the leaders managing the affairs of Israel from Joshua to Saul. Their position was partially judicial and partially one of leadership, though the former function, as time went on, seems to have gained in importance at the expense of the latter. The names of these judges usually given are Othniel, Ehud, Shamgar, Barak, Gideon, Tola, Jair, Jephthah, Ibzan, Elone Abdon and Samson, an account of whose deeds and various administrations may be found in the books of Judges and First Samuel.

Some accounts add to these names those of Eli, Samuel, Deborah and Abimelech, making 16 in all. The recorded exploits and actions of these judges seem to be more tradition than real history. According to the records, these "judges" are supposed to have covered a period of 400 years, or an average of 25 years for each functionary, a considerable length of time for the conditions under which they must have held office and the dangers of the age. This average length of time is increased if the estimated period of 480 years for 12 judges is accepted, making 40 years of government for each individual. The functions, characters and actions of these judges were so different in individuals that modern critics are inclined to look upon them rather as legendary traditional or mythological heroes rather than as sober historical characters. Notably Samson has been looked upon as an old sun god; and Deborah, the prophetess, and Samuel, the powerful and influential seer, might well be traditional types of early semi-religious, semi-tribal leaders. See JUDGES, BOOK OF.

JUDGMENT, the decision rendered by the authority to which a question or issue has been submitted for determination. In a more restricted sense, the decision by a court of law of an issue raised by parties litigant, or the determination and declaration by such court of a legal right. There are many rulings by such a court which are not judgments, but determine merely some incidental question, and there are judgments which are interlocutory, as well as final judgments which put an end to the controversy. But every judgment in a judicial proceeding is an adjudication by the court of some right of a suitor, and until set aside or reversed, is the law governing such right.

In early times the solemn character of a court record and the means which the law furnished for the enforcement of an obligation thus established caused such a record to be adopted for the purpose of entering into an obligation as distinguished from resort to a court for the vindication of the obligation when disputed by the other party. A modern survival is found in the confession of judgment, by which a man causes his obligation to pay a sum of money to be entered upon the court records in the form of a judgment against him for the amount due. In consequence of the early practice—aided also by the fact that a judgment may be sued upon outside the jurisdiction of the court in which it was entered, like a contract—the older legal writers speak of judgments as a species of contract. But this classification has been shown to be unscientific by recent writers, since the courts have pointed out that these obligations are not contractual in either their origin or their incidents, and it is now customary to speak of them as *quasi-contracts*.

It is stated above that a judgment is interlocutory or final. In a suit for partition of real estate a judgment that partition be made is interlocutory, and is the basis of further proceedings which result in the final judgment establishing the partition. A final judgment is one which ends the controversy, at least as to some of the parties. It is a general rule that no appeal can be taken, except from a final

judgment, and while there can rarely be a case of doubt as to the finality of a technical judgment, that is the decision rendered by a court of common-law jurisdiction, questions frequently arise as to the finality of decrees (which correspond to judgments) entered by courts of equity. The test is whether the right is finally settled by the decree; for example, when a creditor has claimed to intervene in an equity proceeding to establish his right to share in a fund being distributed, a decree excluding him is final as to him and appealable, though in all other respects the suit remains undetermined by the court below.

A judgment of a competent court having jurisdiction of the parties and the subject matter is conclusive, except so far as it may be the subject of appeal to a higher court. The direct issue thus determined will not be retried by another court, and such a determination cannot be attacked collaterally except on the ground of fraud or lack of jurisdiction of the court in which the judgment was rendered. A judgment *in personam* binds only parties to the cause and those in privity with them; a judgment *in rem*, which is a judgment determining the status of person or property, binds all the world. Decrees of courts of admiralty are judgments *in rem* and conclusive of the status of the subject matter of the cause upon every one. Decrees of divorce are judgments *in rem* and determine the status of the parties to the proceeding. In the United States they are pronounced by the State courts in the administration of very diverse statutes relating to the subject of divorce, and as the courts of all the States, in addition to the general principles of comity observed between courts of different jurisdictions, are bound by the mandate of the Federal Constitution requiring that "Full faith and credit shall be given in each State to the public acts, records and judicial proceedings of every other State" many perplexing questions have arisen. These cases afford good illustrations of successful collateral attacks upon judgments on the ground of fraud or lack of jurisdiction of the court entering the judgment. It is now well settled that a decree of divorce may be successfully attacked collaterally on the ground of fraudulent collusion between the parties or lack of jurisdiction of the court pronouncing it over the person of the defendant. It is to be observed that a final judgment is conclusive of the particular cause, and first determines the right therein litigated, and may be pleaded in bar of any future attempt to assert the right, except in a case in which there has been no determination on the merits; as for example, where the plaintiff has suffered a voluntary non-suit, that is, has elected in advance of a verdict to abandon his case. He loses that particular case and must pay the costs, but is not prevented from bringing another action.

In most of the United States a judgment for a sum of money found to be due, from the date of its entry, and without the issuance of a writ of execution, constitutes a lien upon the real estate of the judgment debtor; that is a claim which must be paid out of the proceeds of any judicial sale of the property in its order of priority as compared with other liens upon the same property. This lien usually extends only to real estate within the jurisdiction

of the court in which the judgment was entered with provision for filing a transcript to create a lien in other counties of the same State in which the debtor owns real estate. A foreign judgment, in which are included the judgments of others of the United States, must be sued on and a judgment recovered upon it to make it effective in any of the States. In such suit no defense which could have been interposed in the original suit will be allowed to the judgment debtor.

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JUDIC, zhu'dik, **Anna Damiens**, French actress: b. Semur, 1850; d. 1911. In 1868, shortly after her graduation from the Conservatoire, she became very popular at the Eldorado Theatre. In 1871 she visited Belgium; and then returned to the Gaité and other Parisian theatres where her popularity increased by leaps and bounds. Among her notable creations were Niniche, Mimi, Lili and Mademoiselle Nitouche. She made a two years' tour (1885-86) of the principal cities of Europe and the United States. Retiring from the stage for some time, she returned to it in 1898.

JUDICA, joo'di-ka ("judge," or "give sentence"), the first word in the 43d Psalm, used as an introit in the Church of England (1549) for the 3d Sunday in Lent, and in the Roman Catholic Church for the 5th Sunday in Lent. Hence "Judica Sunday" as a term to designate those several days.

JUDICATURE ACTS, in English law, a number of statutes, dating from 1873, simplifying procedure and consolidating numerous courts into one Supreme Court of judicature. Demurrers were abolished, and important changes made in the rules as to the right of trial by jury. The acts in question are 36 and 37 Vict., c. 66, and 38 and 39 Vict., c. 77, with various amendments. A 12th amending act was passed in 1899. By the first of these acts the Court of Queen's (or King's) Bench, the Court of Chancery, the Court of Exchequer, the Court of Common Pleas, the High Court of Admiralty, the Court of Probate and the Court of Divorce and Matrimony were consolidated into one Supreme Court of Judicature, consisting of a High Court of Justice and a Court of Appeal. By these acts laws and equity were administered by the same court, and equitable defenses allowed in legal actions. Another object of these acts was to simplify pleading and practice, and this was done by abolishing the old forms of action. The former arbitrary modes of pleading were supplanted by concise statements of claim or defense. The House of Lords under these acts remains the highest court of appeal. In case a point of law is raised by the pleadings, it is left for settlement until the trial or until after the issues of fact have been disposed of. It is claimed by some that the abolition of demurrers and settling questions of law after the beginning of the action has led to great laxity and inaccuracy in pleading. Upon notice without order, either party has a right to trial by jury in actions of false imprisonment, malicious prosecution, slander, libel, seduction or breach of promise of marriage. By the act of 40 and 41 Vict., c. 57, a Supreme Court of Judicature was established in Ireland in 1878, and by this act and later

ones, a substantially similar system to that of England is now in effect.

JUDICIAL DECISIONS, Recall of. See RECALL.

JUDICIAL DISTRICT. See DISTRICT.

JUDICIAL NOTICE, recognition by a court of some certain feature involved in an action as being self-evident and, therefore, in no necessity of proof. It is a very old doctrine in English and American law. The determining of what facts come under the term judicial notice is almost altogether in the hands of the court which is generally supposed to take judicial notice of the common and the public statute law, the public offices and officers, rules of courts, matters of public record in its own State, the State and the United States political constitutions; and, in addition, all other factors or claims which might, in reason, affect any decision to be made, such as the existence and title of foreign state and sovereign recognized by the United States and public proclamations of the national or State chief executive. In short, the court, in making its decision in case of judicial notice, is supposed to be fully and truly possessed of all the facts, conditions and bearings of the question at issue. The judge must at some time either previous to the trial or during it become convinced that the fact in question is self-evident and that it therefore does not admit of dispute nor require proof. This condition also applies to courts and juries, but the jury cannot take cognizance of a law without instruction from the court, since such is not the function of a jury. An appeal may be made to the appellate court against the decision of the court, and it may, if it finds reason therefor, reverse the judgment and order a new trial. See EVIDENCE.

JUDICIAL SEPARATION, the termination by process of law of the conjugal rights and obligations of husband and wife. In many countries where divorce is either not recognized at all or is very difficult to obtain, judicial separation affords a legal relief against, if not a remedy for, intolerable marriage conditions. It is therefore frequently resorted to in countries that are strongly Roman Catholic, owing to the stand taken by that Church against the dissolution of the marriage contract, which is considered in the light of a sacrament of religion. In most of the countries of Europe, where old customs, laws and traditions change slowly, the securing of a divorce is a very difficult matter, even where the provisions of the law make it possible; and here judicial separation is resorted to as affording quicker and easier relief and less public notice. This condition obtains in England and her colonies. In the United States, however, where many attempts have been made by the various States of the Union to regulate the question of the legal separation of man and wife, more or less liberal divorce laws have been placed upon the statute books of most of the States. In the legal sense of the term judicial separation is not a divorce since it does not dissolve the marriage bonds, but simply requires the contracting parties to live apart as though they were not husband and wife. Divorce, on the other hand, is the dissolution of the marriage ties. The parties to the divorce are generally

permitted to marry again, though the divorce decree sometimes prohibits one or both of them permanently, or for a certain specified time. In effect the judicial separation is, in many respects, similar to that of the decree of divorce. It destroys the right of husband and wife to cohabit (*consortium*) or to enjoy one another's society as married parties. As it has the result of making the parties to the judicial separation, in a legal sense, individuals, it relieves the husband of the support of his wife or of the payment of all debts and obligations contracted by her. But as the parties to the decree of judicial separation are still husband and wife, in the eyes of the law, neither, under the terms and intent of the decree, can marry again. Any such attempt would be legal bigamy and adultery. Nor does legal separation generally interfere with the property relationship of husband and wife or any business contracts, obligations or relationships they may have entered into previous to the decree of judicial separation. The husband, as the head of the family, is still the legal guardian of his children unless expressly deprived of this, or having voluntarily resigned it in the legal process of the securing of the decree. Although legally separated, the wife, on the death of her husband, has the same relation to him and his estate and other possessions as though no separation had taken place. The husband, in the same manner, in the case of the death of his wife, has all the rights given by the marriage contract. See **DIVORCE**.

JUDICIARY, the body of judges or magistrates who exercise their authority either singly or as tribunals, interpreting the laws which the legislatures make and the executives execute. The highest courts in all countries, and those mostly of an intermediate character, are held by a bench of judges, rather than by a single magistrate. Dominating all is usually a supreme court which determines all legal controversies of national concern. In nations under a federal system of government, the judicial power is usually divided between two separate and distinct classes of courts: federal courts exercising judicial power in respect to questions of national concern and state courts established for the determination of legal controversies of a local character.

The Judiciary Act of the United States Congress, 24 Sept. 1789 (1 Stat. 73), is non-embodied with the amendments in the provisions of the United States. The act established the Federal courts of the United States, defined their jurisdiction and powers and regulated procedure. The basis of the whole legal system of the country is the common law (q.v.), without which there would be an extraordinary variety of judicial organization and procedure throughout the nation, each State having its own separate and distinct judicial system and procedure; framed according to its own notions of its local needs and conditions. Above all other governmental departments the Federal judiciary especially, and the judiciary in general, command popular confidence and respect. The importance and political influence the judiciary possesses have been largely increased from the power which the American courts have attained in declaring statutes null and void when they are found to conflict with the Constitution.

From the beginning this power has been recognized almost without dispute. While State judges are for the most part elected by the people, all Federal judges are appointed by the President with the advice and consent of the Senate. In regard to terms of judicial tenure, there is a great variety of opinion and practice throughout the United States. See **COURT; JUDGE; SUPREME COURT OF THE UNITED STATES**.

JUDICIARY AND EXECUTIVE. See **EXECUTIVE**.

JUDITH, Jewish heroine. She was the widow of Manasses, a citizen of Bethulia. When Holofernes, general of King Nebuchadnezzar, according to the book of Judith, besieged Bethulia, a city of unknown geographical position, she went armed with faith in Jehovah to the tent of the invader and was admitted because of her stately beauty. While he slept she cut off his head with his own sword and thus delivered Israel. This incident has been a favorite subject with artists, for in the first place the book of Judith is written with abundant literary point and skill and is naturally suggestive to the sculptor or painter. It is the subject of Donatello's bronze group in the Lanzi palace at Florence, and of many pictures, notably that of Cranach in the Dresden Gallery, and those of Horace Vernet, 'Judith on Her Way to Holofernes' and 'Judith in the Tent of Holofernes.'

JUDITH, zhū'dët', Julie Bernat, French actress: b. Paris, 1827; d. 1912. She was a relative of Rachel (q.v.). She played in the principal theatres of Paris, making her début at Les Folies in 1845. Among her many successful rôles were Pénélope, Alcemène, Rosine, Charlotte Corday and Mademoiselle Aisé. She was married to Bernard Derosne and with him made translations from English into French. Under the pen name Judith Barnard she wrote 'Le Chateau du Tremble' (1872).

JUDSON, Adoniram, American missionary: b. Malden, Mass., 9 Aug. 1788; d. at sea, 12 Aug. 1850. He was a member of the first American Board of Commissioners of Foreign Missions, consisting of five members. Sent to London to confer with the London Missionary Society, he was captured, on the way, by a French privateer and imprisoned at Bayonne. Released, later on, he proceeded to London and accomplished his mission. Returning to America, he and four other missionaries, Hall, Newell, Nott and Rice, were sent to India (or Burma) by the American Board of Foreign Missions (February 1812). In Calcutta Judson and his wife joined the Baptists, and their activities resulted in the formation of the American Baptist Missionary Union (1814). After considerable wandering, Mr. and Mrs. Judson settled in Rangoon (1813). Although they do not seem to have had very great success in gaining converts among the natives, the government, nevertheless, did not show itself at all friendly toward their efforts, which had netted them a score or more of converts in 11 years. On the breaking out of war between Burma and the East India Company, Judson was imprisoned for a year and seven months, and even then was released only on a peremptory demand of the part of Gen. Sir Archibald Campbell. After a year at Amherst in Lower Burma, he went

o Maulmain, where he was successful in founding a church. Returning to America in 1845 on account of his own ill health and that of his family, he went back to Rangoon in 1847, where he occupied a goodly part of his time in the preparation of a dictionary. Forced by returned ill health to leave the country, he was carried on board ship at Maulmain and died on the voyage four days later. His body was buried at sea. Judson was an indefatigable and tireless worker, and his work must be judged from two points of view, the aims actually accomplished and the general results of his labor upon conditions not only in the country in which he labored but upon all of India and Further India. In his 37 years of missionary labor he succeeded in gradually working up a sentiment in the East in favor of religious toleration which is to-day bearing fruit in many quarters. One of his most successful efforts was the organization of an extensive, trained body of native assistants to aid him in the translation of the Bible and other works into Burmese, and in the compilation of his Burmese-English and English-Burmese dictionary, Burmese grammar and Pali dictionary. These works, though intended primarily as aids for missionaries in Burma and the India countries generally, have been great aids to the study, by students and scholars of the languages of the East, in which Judson's missionary efforts and the publicity they had received had helped to increase the growing interest. Consult lives of Judson by his son, Edward Judson (New York 1883 and 1898); and by Wayland. See JUDSON, ANN HASSELTINE; JUDSON, SARAH HALL; JUDSON, EMILY CHUBBOCK.

JUDSON, Adoniram Brown, American surgeon: b. Maulmain, Burma, 7 April 1837; d. New York, 21 Sept. 1916. He was a son of the missionary Adoniram Judson. His mother was Sarah Hall Boardman Judson. He was graduated from Brown University in 1859, Harvard Medical School in 1860, Jefferson Medical College in 1865 and College of Physicians and Surgeons in 1868. He became assistant surgeon in the United States navy in 1861; surgeon in 1866 and resigned in 1868. Since then he had engaged in the practice of medicine in New York city. He was a specialist in orthopedic surgery, inspector of the New York board of health from 1869 to 1877; pension examining surgeon from 1877 to 1884 and from 1901 to 1914; medical examiner of the New York State Civil Service Commission from 1901 to 1909; orthopedic surgeon to the out-patient department of New York Hospital from 1878 to 1908. Dr. Judson was president of the American Orthopedic Association in 1891, member of the American Medical Association, Fellow of the American College of Surgeons, American Academy of Medicine and the Academy of Medicine and was a member of Lafayette Post, G. A. R. He wrote on medical and surgical subjects.

JUDSON, Ann Hasseltine, American missionary to India: b. Bradford, Mass., 22 Dec. 1789; d. Amherst, Lower Burma, 24 Oct. 1826. She was the wife of Adoniram Judson (q.v.), whom she accompanied on his first visit to India (1812) and with whom she labored as a missionary. She published a 'History of the Burma Mission.' Consult Knowles, 'Life of Ann Hasseltine Judson.'

JUDSON, Edward, American Baptist clergyman: b. Maulmain, Burma, 27 Dec. 1844; d. New York, 23 Oct. 1914. He was the son of Adoniram Judson (q.v.) and came to the United States in 1850 after the death of his father. He studied at Madison (now Colgate) University and was graduated from Brown in 1865. He was principal of the academy at Townsend, Vt. (1865-67) and subsequently professor of Latin at Madison (now Colgate) University. In 1875 he accepted the pastorate of the Baptist Church at Orange, N. J., then became pastor of the Berean Baptist Church, New York city, and later secured a site on Washington square, New York, and erected the Judson Memorial Church (in memory of his father), of which he was pastor. Here he built up an institutional church, with many different lines of work, including gymnasium classes, a dispensary and a children's fresh air fund. He lectured on theology at the University of Chicago, 1904-06, and on Baptist principles and polity at Union Theological Seminary, 1906-08, and was made professor of pastoral polity at Colgate in the latter year. In 1899 he published a 'Life' of his father, and he wrote also 'The Institutional Church.'

JUDSON, Emily Chubbock, American writer and missionary: b. Eaton, N. Y., 22 Aug. 1817; d. Hamilton, N. Y., 1 June 1854. She was the third wife of Adoniram Judson (q.v.) whom she married in 1846, and at once accompanied to India. Even at this time she had attained a reputation as a writer under the pen name of Fanny Forester. She wrote the life of Sarah Hall (Boardman) Judson, second wife of Adoniram Judson. On the death of her husband she returned to America in 1850. Ill-health prevented her continuing her literary labor. She, however, assisted Dr. Wayland in writing the biography of Judson. Consult Kendrick, A. C., who has written her biography.

JUDSON, Frederick Newton, American author: b. Saint Mary's, Ga., 1845; d. 18 Oct. 1919. Graduating from Yale University and the Saint Louis Law School (1871) he became private secretary for Gov. Gratz Brown, when he entered upon the practice of law. He lectured at Washington University (1903), and was Storrs lecturer at Yale (1913). He was counsel for the United States on several important occasions, and acquired a reputation as a corporation lawyer. Among his published works are 'Law Practice of Taxation in Missouri' (1900); 'The Taxing Power, State and Federal, in the United States' (1902); 'The Law of Interstate Commerce' (1905); 'The Judiciary and the People' (1913).

JUDSON, Harry Pratt, American educator: b. Jamestown, N. Y., 20 Dec. 1849; d. 4 March 1927. He was graduated from Williams College, A.B. in 1870, A.M. in 1883. He was a teacher at and principal of the high school at Troy, N. Y., 1870-85; professor of history, University of Minnesota, in 1885-92; professor of political science and head dean of colleges at the University of Chicago in 1892-94; professor and head of the department of political science and dean of the faculties of the arts, literature and sciences there, 1894-1907; acting president of the university, 1906-07; president, 1907-23; president emeritus thereafter. He was one of the leading educators of the

country. He published: *Caesar's Army* (1885); *Europe in the Nineteenth Century* (1894, rev. ed. 1901); *The Growth of the American Nation* (1895); *The Young American* (1895); *Our Federal Republic* (1925).

JUDSON, Sarah Hall Boardman, American missionary to Burma: b. Alstead, N. H., Nov. 4, 1803; d. Saint Helena, Sept. 1, 1845, on her way home to United States. She married the Reverend George Dana Boardman in 1825 and went with him to the Baptist missionary work in Burma. On the death of Boardman she was married to Dr. Adoniram Judson in 1834. As his associate in the mission field she translated into Burmese various selections from the Bible, many tracts, and part of John Bunyan's *Pilgrim's Progress*. She also made a hymn-book in Burmese and supervised the translation of the New Testament into Peguan.

Consult her life by Emily C. Judson.

JUDY, the wife of Punch, in the puppet show, Punch and Judy. See PUNCH AND JUDY.

JUEL, yōōl, Jens, Danish diplomat: b. July 15, 1631; d. 1700; brother of Niels Juel. Fearing great-power control of Denmark, he worked for closer ties with Sweden. At home, he promoted commerce and industry, but opposed a more flexible political system and considered the freeing of the serfs impracticable.

JUEL, yōōl, Niels, Danish admiral: b. Christiana (now Oslo), 1629; d. 1697. Going to Holland in 1650, he served under Michel de Ruyter and Maarten Tromp in the war against England and the Barbary States. He also fought with allied Dutch fleets against Sweden in 1659, and also in the later war with the same country in 1676, when being himself in command at the Battle of Jasmund, he defeated and swept the enemy's fleet out of the sea with a very much smaller number of vessels. The following year, with 25 ships to the Swedish 36, he again obtained the victory at the Battle of the Bay of Køge (Kjoge).

JUENGLING, yŭng'ling, Frederick, American wood engraver: b. Leipzig, Germany, Oct. 18, 1846; d. Dec. 31, 1889. He was one of the founders and the first secretary of the American Society of Wood Engravers (1881). In his art he was one of the most consistent advocates and practitioners of the new American system of wood engraving which substituted short broken lines, dots and so forth for the regulation long lines and regular sweep of the graver. He was a bold and clever workman and met with very considerable success.

Consult Weitenkampf, Frank, *American Graphic Art* (New York 1912).

JUG, a vessel of earth, glass or metal, used for holding liquids and characterized by having one handle and a lip for ease in pouring. The origin of the word is uncertain. In slang the term is employed to denote a prison, and there is not wanting evidence that in this latter sense it is an adaptation of the Latin *jugum*, a yoke. In the United States the word pitcher has superseded jug to a great extent.

The 18th and 19th centuries saw the production in England of pottery vessels known as "Toby jugs," "Nelson jugs," etc., usually in the

form of a stout old man with a hat the corners of which form the spouts.

JUGGERNAUT, jŭg'ēr-nôt. See JAGAN-NATH.

JUGGLER, a skillful and dexterous performer of feats of different kinds, including sleight of hand (legerdemain). The juggler is or was to be found in all lands. He was a favorite with the Greeks and the Romans, and has been, for centuries, with the Japanese and Chinese; and he has long been an institution in India, southeast Asia, Iran and Tibet. The Aztecs and many other American native peoples had very skillful jugglers who seem to have been frequently connected with the religious or mythological beliefs of the peoples. See also LEGERDEMAIN; FAKIR.

JUGLANDACEAE, jōō-glän-dā'sè-ē, the walnut family, dicotyledonous plants, native of the north temperate zone. Most of the 40 or more species of this family consist of trees, all nut-bearing and producers of excellent wood for cabinet and other work. The most valuable in this respect is the black walnut. The best known and most extensive genera are the *Juglans* or walnuts, and the *Hicoria* or hickories.

JUGOSLAVIA. See YUGOSLAVIA.

JUGULAR, jŭg'ŭ-lēr, **VEIN**, one of the large trunks by which the greater part of the blood that has circulated in the head, face and neck is returned to the heart. There are two on each side, an external or superficial and an internal or deeper.

JUGURTHA, jōō-gŭr'thā, or **IUGURTHA**, yōō-gŭr'thā, king of Numidia: d. Rome, 104 B.C. He was a natural son of Mastanabal, and a grandson of Masinissa. Micipsa, his father's brother, king of Numidia in 149 B.C., adopted him and brought him up with his own sons, Adherbal and Hiempsal. Micipsa did his best to conciliate him, and declared him joint-heir to the crown with his two sons. But after the death of Micipsa, Jugurtha had Hiempsal murdered and drove Adherbal from the country. Adherbal: pealed to Rome, and after several Roman expeditions into Numidia, Jugurtha was captured (106 B.C.), led in the triumph of Marius at Rome, and finally thrown into a dungeon, where he was starved to death.

JUIN, zhū-ăn', Alphonse Pierre, French army officer: b. Bône, Algeria, Dec. 16, 1888. Graduated from L'École de Saint-Cyr, the French military academy in Paris, he joined the First Algerian Tirailleurs Regiment as an officer in 1910, and served in Morocco in 1912-1914. During World War I he fought in France and was seriously wounded. After the armistice he attended L'École de Guerre in Paris, won recognition as an expert in strategy, became chief of staff in France to Marshal Louis Lyauté, the "organizer of North Africa," and then returned to commands in Morocco.

At the outbreak of World War II he was sent from active duty in Morocco to France and given command of the 15th Motorized Division, which he led bravely and meritoriously; but in May 1940 he was captured and then imprisoned

at Königstein, Germany. His internment by the Germans ended in June 1941, apparently in exchange for his promise to cooperate with the Vichy French government, under which in August 1941 he assumed command of French forces in Morocco. General Juin resisted the Allied invasion of North Africa (November 1942) for less than a day, and on Dec. 29, 1942, after the assassination of Admiral Darlan, was named commander in chief of all French forces in North Africa. He subsequently commanded a Free French field army during the Allied Tunisian campaigns of 1943, and in 1944 headed French and Allied troops during the campaigns in Italy. From August 1944 to December 1945 he served as chief of the Combined General Staff of the French armed forces; in 1946-1947 he was chief of staff of the French Army in Indochina; on May 14, 1947, he was appointed resident general of Morocco; and in April 1948 he was named commander in chief of North African forces. He was reassigned to Indochina on Oct. 10, 1950, to help reorganize French forces for more effective resistance against the Communists. On Jan. 25, 1951, shortly after his return to France, he was granted supreme authority to reorganize the armed forces of France, the first time during peacetime that such power had been vested in a single officer. Less than two months later, on March 20, 1951, he was appointed by Gen. Dwight Eisenhower as the third ranking officer at the Supreme Headquarters, Allied Powers in Europe, being designated specifically to command the North Atlantic Treaty troops in the vital central area sector of Western Europe.

JUIJITSU or **JUJUTSU**. See **JUIJITSU**.

JUJUBE, jōō'jōōb, a spiny and deciduous shrub of the family Rhamnaceae, *Zizyphus jujuba*, native from southeastern Europe to China. The oblong or round fruit is dark red, brown, or yellowish with a sweet granular pulp. There are about 40 species, the principal commercial ones being *Z. jujuba*, the Chinese jujube, and *Z. mauritiana*, the Indian jujube. The Chinese jujube is promising as a fruit tree in the southwestern United States, where it thrives in semi-arid regions with alkaline soil. It may also be grown in the east as far north as New York. *Z. lotus*, which may have given its name to the ancient Lotophagi, is a shrub two to three feet tall, native from North Africa to Persia. Its cherrylike fruits are used as food by the Arabs of Africa.

JUJUY, hōō-hwē', province, Argentina, in the extreme northwest along the Bolivian border. Nearly the entire area is mountainous, a continuation from Bolivia of the high, bleak Andean *puna*, covered with small, drought-resistant shrubs. This section is notable for its mineral wealth, Jujuy accounting for nearly the entire Argentine production of antimony, lead, silver, tin and zinc, as well as much of the salt and gold. The southeastern part of the province is v-laying and humid, its natural vegetation being tropical scrub forest. This section, which produces sugar cane, grains, tobacco and livestock, is an arm of the Argentine Gran Chaco which enters the province through the valley of the Rio Grande de Jujuy, an affluent of the Rio Bermejo. The capital, also called Jujuy (founded 1593; pop. 1942 est. 19,257) is on the Rio

Grande near the beginning of the lowlands, but has a moderate climate due to its elevation (4,167 feet). It is connected by highway and railroad with Bolivia (by way of La Quiaca on the Jujuy-Bolivian border) and Buenos Aires. Area, including the Department of Susques (part of the former Territory of Los Andes until 1943), 20,393 square miles; pop. (1947) 166,783.

JUKES, The, the name given to a family of New York State that had an unusual record of crime and pauperism. In 1875, Richard Louis Dugdale, while making investigations on behalf of the New York Prison Association, found several of the same family imprisoned for various crimes. Becoming interested in the subject, he traced the history of the family through several generations; they were descendants of the two sons of a backwoodsman, called Max, who married two of the Jukes sisters, one of whom is known as "Margaret, the Mother of Criminals." Exact information was obtained in relation to 709 out of the 1,200 descendants and blood relations; of these, 140 had been imprisoned for crime, 280 had been paupers, dependent upon public support, and the large majority were of low physical and moral standard.

Consult Dugdale, Richard L., *The Jukes, a Study in Crime, Pauperism, Disease and Heredity* (New York 1875; republished 1877; 1910).

JUKES, Joseph Beete, English geologist: b. Summerhill, Birmingham, October 1811; d. Dublin, July 29, 1869. He became geological surveyor of Newfoundland (1839-1840); and, in 1842, naturalist to H.M.S. *Fly* engaged in exploring the east coast of Australia and part of New Guinea. Four years later he did excellent work on the Geological Survey of Great Britain (1846-1850); and on that of Ireland; after which he became professor of geology in the Royal Dublin Society and the Royal College of Science of Dublin. Among his numerous published works are *Excursions in and about Newfoundland*, 2 vols. (1842); *A Sketch of the Physical Structure of Australia* (1850).

JULG, yülk, Bernhard, German philologist: b. Ringelbach, 1825; d. 1886. He was educated at Heidelberg and Berlin, graduating in 1848. He became a teacher and finally professor of classical philology at Lemberg (1851), Cracow (1853) and Innsbruck (1863), where he made a special study of comparative philology and Oriental folklore.

JULIA, jōō'yà, only child of the emperor Augustus: b. 39 B.C.; d. 14 A.D. She was his daughter by his second wife, Scribonia, and was first married (25 B.C.) to her cousin, the young Marcellus, and afterward to Marcus Vipsanius Agrippa, to whom she bore three sons and two daughters. On Agrippa's death, in 12 B.C., she was married to Tiberius, who left her on account of her licentiousness. Augustus banished her to Pandataria, a desolate island on the coast of Campania, ultimately allowing her to live in Rhegium. After the death of the emperor, Tiberius treated her with great severity. She died in poverty and distress. Her son, Agrippa, had been put to death by Tiberius shortly before.

JULIA DOMNA, dōm'nà, Roman empress: b. Emesa, Syria, 170 A.D.; d. 217 A.D. She was the second wife of Septimius Severus, and

mother of Caracalla and Geta, and a distinguished patroness of art and science.

JULIAN, jōōl'yān (FLAVIUS CLAUDIUS JULIANUS), Roman emperor, surnamed the Apostate: b. Constantinople, 331?; d. 363. When hardly six years old his father and several members of his family were murdered by the soldiers of his cousin, the Emperor Constantius. He was brought up in the Christian religion, studied philosophy and letters, and resided in Athens, where he was induced to embrace paganism. Having received command of an army against the Germans, he defeated them at Strasbourg in 357 and drove them beyond the Rhine. He also displayed great talent as an administrator in Gaul. The emperor now became jealous of Julian, and recalled his best troops under pretense that he wanted to employ them against the Persians. This order caused a rebellion among the soldiers, who proclaimed their leader, Julian, emperor in March 360, in spite of his own resistance. Constantius prepared to proceed against him, but soon after died, and Julian was generally recognized as emperor in 361. He began his reign by putting a stop to many abuses and limiting the splendor of the court, and was thus able to remit to the people the fifth part of all their taxes. He sought to restore the heathen worship in all its splendor, and on that account opposed Christianity as much as was in his power, without, however, persecuting the Christians themselves. In 363 he headed an expedition against the Persians and took several cities. He was an able ruler, and had also a reputation as an author. Some of his works have come down to us, including speeches, letters, and satirical pieces; the latter are distinguished for wit and humor. He wrote also a work against the Christian religion, of which some extracts remain. Consult Negri, G., *Julian the Apostate* (New York 1905); Gardner, Alice, *Julian, Philosopher and Emperor, and the Last Struggle of Paganism Against Christianity* (New York 1906); and Simpson, D. W., *Julian the Apostate* (Aberdeen, Scot. 1930).

JULIAN, Cardinal. See CESARINI, GIULIANO, CARDINAL.

JULIAN, George Washington, American abolitionist: b. Centerville, Ind., May 5, 1817; d. Irvington, Ind., July 7, 1899. He studied law and was admitted to the bar at the age of 21. In 1845 he was elected to the state legislature as a Whig, but being a strong opponent of slavery he severed his party connection with the Whigs and became one of the founders of the Free Soil Party in 1848. In 1849 he was elected to Congress; in 1852 was candidate of the Free Soil Party for vice president, and in 1856 a delegate to the first national convention of the Republican Party, where he was vice president of the convention and chairman of the committee on organization. In 1860 he was again elected to Congress, and served continuously for ten years. He was a member of the committees on the conduct of the war, on reconstruction, on the preparation of the articles of impeachment against President Andrew Johnson (q.v.) and on public lands, being chairman of the latter. He opposed any monopoly of the public lands, was an advocate of the homestead system, and strongly favored giving the franchise to the Negro. In 1868 he proposed a constitutional amendment providing for woman's

suffrage. In 1872 he joined the Liberal Republicans, and after that became a Democrat; in 1885-1889 he was surveyor general of New Mexico; in 1889 he retired from public life. He published *Speeches on Political Questions* (1872); *Political Recollections* (1884); and *The Life of Joshua R. Giddings* (1892).

JULIAN ALPS, the southern extension of the Eastern Alps, from the Venetian Alps, on the northeast, through the Trentino to the neighborhood of Trieste. The highest peak, Triglav, is 9,394 feet. The whole range, which is very rough and broken, is covered largely with handsome forest. Among them are rich valleys.

JULIAN CALENDAR. See CALENDAR; EPOCH.

JULIAN PERIOD. Method of computing time proposed by Joseph Justus Scaliger (q.v.) in 1582. This system of measuring depends upon the continued product of the three cycles: the years of the Roman indiction, a 15-year period used under the Roman Empire; the metonic cycle of 19 years; and the solar cycle of 28 years. The product of $15 \times 19 \times 28$ is 7,980 years which provides a nonrepeating series of numbers in any of the cycles so that no two-year numbers are the same. It also covers a sufficient period of time to include all historical dates, and avoids any confusion set up between B.C. and A.D. dates. The number in the Julian period can be computed when the number of any proposed year in each of the cycles is known.

JULIANA, yū'lē-á'nà (JULIANA LOUISE EMMA MARIE WILHELMINA), queen of the Netherlands: b. April 30, 1909. She is the daughter of Queen Wilhelmina I and Henry Wladimir Albert Ernst (d. 1934). Princess Juliana married on Jan. 7, 1937 Prince Bernhard of Lippe-Biesterfeld (b. 1911). Children of this union are the princesses Beatrix (b. Jan. 31, 1938), Irene (b. Aug. 6, 1939), Margaret Francisca (b. Jan. 19, 1943), and Maria Christina (b. Feb. 18, 1947). After the Germans invaded her country on April 10, 1940, Juliana lived in Canada. Accompanying her mother she returned to the Netherlands May 3, 1945, a few days before the Germans capitulated. After Queen Wilhelmina's abdication Juliana ascended the throne Sept. 4, 1948.

JULIANUS SALVIUS. See SALVIUS JULIANUS.

JULICH, yū'līk (Fr. JULIERS), a town in the Rheinland, Germany, on the east bank of the Roer River, 16 miles northeast of Aachen (Aix-la-Chapelle) and 25 miles west of Köln (Cologne). Population (1939) 11,569. The town has some interesting old buildings and modern schools and churches. Its chief industries are paper, sugar, silk, and leather. It was once a strongly fortified city and the capital of the independent duchy of Jülich. It was made a fortress in the 17th century, and was successively in the hands of Holland (1610), Spain (1622), and France (1801-1814), before becoming part of Prussia. The works of its fortress were demolished in 1860.

During World War II, Jülich was the scene of brief but bitter fighting during the Allied drive into Germany. Its strategic location made it the

target of several British and American bombing attacks. The United States 9th Army reached the west bank of the Roer just south of Jülich on Nov. 22, 1944. Following the German counter-offensive in December and January, the United States 1st and 9th armies penetrated the Jülich-Bonn line, capturing the town on Feb. 24, 1945 in the great drive on Köln.

JULICHER, yü'lik-ër, **Adolf**, German biblical authority and scholar: b. Falkenberg, Jan. 26, 1857. He studied at the University of Berlin, becoming a preacher, and finally docent of church history there in 1887. In 1888 he was made professor of the same subject at Marburg. Among his works are *Die Gleichnisreden Jesu* (1889-91); and *Einleitung in das Neue Testament* (1904), tr. into English by Janet Ward (1904).

JULIE OU LA NOUVELLE HELOISE.
see LA NOUVELLE HÉLOÏSE.

JULIEN, Alexis Anastay, American geologist: b. New York, N. Y., Feb. 13, 1840; d. May 7, 1919. Graduated at Union College in 1859, studied chemistry there for a year, and in 1860-1864, while resident chemist on the guano island of Sombbrero, carried on a variety of scientific researches. He served on the Michigan Geological Survey in 1872 and on the North Carolina Survey in 1875-1878, but from 1865 to 1909 was regularly connected with the School of Mines, Columbia University, as assistant in chemistry, instructor in microbiology, and (1897-1911) curator of geology. He retired in 1911. His writings include a report on "Lithology" in the Michigan Geological Survey's *Geology of Michigan*, vol. II, 1872; a "Microscopic Examination of Eleven Rocks from Ashland County, Wis.," in Wisconsin Geological Survey's *Geology of Wisconsin*, vol. III, 1880. "On the Geological Action of the Humus Acids" in the *Proceedings of the American Association for the Advancement of Science* (1880); and "Building Stones. Elements of Strength in their Constitution and Structure," *Journal of the Franklin Institute* (1899).

JULIEN, zhü-lyän', **Noël** (called STANISLAS), French sinologist: b. Orleans, Sept. 20, 1799, d. Paris, Feb. 14, 1873. Possessed of an extraordinary linguistic faculty, he taught himself Greek, English, Italian, Spanish, Portuguese and German, and in 1823 commenced the study of Chinese. At the end of a year he published a Latin translation of the philosopher Mencius. He mastered ancient and modern Chinese, Manchu, the Mongolian tongues, and Sanskrit, were the subjects of exact and profound study. In 1832 he became professor of Chinese at the Collège de France; librarian at the Bibliothèque Nationale, 1839; administrator of the Collège de France, 1859; commander of the Legion of Honor, 1863. His most important works are *Summary of the Principal Chinese Treatises upon the Culture of the Mulberry and the Rearing of Silk Worms*, tr. from the French by W. Force (1839); *Exercices pratiques d'analyse de syntaxe et de lexicographie chinoises* (1842); *Voyages des Pèlerins Bouddhistes* (1853-58); and *Syntaxe nouvelle de la langue chinoise* (1869-70).

JULIEN, the second and latest opera composed by Gustave Charpentier, was produced at the Opera-Comique in Paris, Jan. 3, 1913, and

at the Metropolitan Opera House in New York City with Farrar and Caruso on Feb. 26, 1914. Despite a brilliant performance, it failed to win the approval accorded Louise, the previous operatic work of the composer. The critics felt that its leading motives were commonplace, the music fragmentary, and the whole score lacking in merit.

JULIET, one of the two leading characters in Shakespeare's tragedy of *Romeo and Juliet* (q.v.). Juliet also appears in another of Shakespeare's plays, *Measure for Measure* (q.v.), as the lady beloved of Claudio.

JULIUS I, pope: d. 352. He became pope in February 337, and was a staunch defender of Athanasius, who, under the protection of Julius, sought refuge in Rome against the enmity of the Eastern prelates.

JULIUS II, pope (GIULIANO DELLA ROVERE): b. Albissola, near Savona, Italy, 1443; d. Rome, Feb. 21, 1513. He was elevated by his uncle Sixtus IV to the rank of a bishop and cardinal in 1471, and subsequently held eight bishoprics and the archbishopric of Avignon. He was appointed papal legate to France in 1480 and in 1503 was elected pope. Immediately on his elevation to the pontificate he planned the complete reestablishment of the papal sovereignty in its ancient territory, and the extinction of foreign domination and influence in Italy. Refusing to attend the Council of Pisa convened by the king of France, he, in 1511, formed the Holy League, to which Spain, England and Switzerland were parties. In 1512 he made open war against Louis XII, and the Fifth Lateran Council was convoked by him in the same year. The French defeated the papal army near Ravenna, but were soon after driven out of Italy. He was a far-sighted and patriotic sovereign, and a liberal and judicious patron of art and literature, Michelangelo, Raphael and other great artists of the time receiving commissions from him. To procure means for building Saint Peter's he ordered the preaching of indulgences, which was one of the immediate causes of the Reformation. Consult Dumesnil, A. J., *Papst Jules II* (1873); Brosch, M., *Papst Julius II und die Gründung des Kirchenstaates* (1878); and Rodocanachi, E. P., *Histoire de Rome* (Paris 1928).

JULIUS III, pope (GIAMMARIA CIOCCHI DEL MONTE): b. Arezzo, Sept. 10, 1487; d. Rome, March 23, 1555. He was made archbishop of Siponto in 1512 and of Pavia in 1520 and was appointed cardinal by Paul III in 1536. He took an active part in the Council of Trent as papal legate, was elected pope in 1550, and in the following year reopened the Council of Trent, which had been suspended for two years. He endeavored to effect a union with the Nestorians, and commissioned Cardinal Pole to organize, in conjunction with Mary, the reunion of England with Rome.

JULIUS, DUKE OF BRUNSWICK, a German prince and ruler: b. 1528; d. 1589. He succeeded his father as duke of Brunswick in 1568. He made himself prominent in Europe by reversing the Catholic policy of his house and becoming himself the backer of the Reformation. He founded the University of Helmstedt as a foil to the great Catholic educational interests with which he was contending.

JULIUS CÆSAR. See CÆSAR, GAIUS JULIUS.

JULIUS CÆSAR. This play was first produced about 1601, though not printed until 1623 with the publication of the first Folio. It is in a sense a continuation of the historical plays, the background of Rome being substituted for that of England. At the same time it is the first in the series of great tragedies. Based upon the lives of Brutus, Julius Cæsar and Mark Antony in North's translation of Plutarch's 'Lives,' it is a striking illustration of the way in which Shakespeare closely followed his original in spirit and sometimes in language, while at the same time he organized this material into a dramatic whole. If one compares Plutarch's text with the play itself, he can best see the dramatist in the very act of dramatic construction.

"The little more and how much it is
The little less and what worlds away!"

In the play we find ourselves in Rome about 44 B.C.: we see the Roman populace running here and there through the streets; we hear the voices of Brutus and Antony in the forum or catch glimpses of Cicero and Cassius on a stormy night; when the scene shifts from Rome, we see the battlefield of Philippi—and along with all these men and guiding the destiny of events, we see and feel the presence of the mighty Julius. The question inevitably arises as to why Shakespeare named the play after Cæsar, who disappears in the middle of the play. Unquestionably the impression gained from what he says as well as from what others say about him would not indicate that the dramatist thought of him as highly as passages in other plays, notably 'Hamlet,' 'Antony and Cleopatra' and 'Richard the Third,' would indicate. He is rather presented as one whose bodily presence is weak and whose mind is declining in strength and in sure-footed energy. Emphasis is placed upon the weakness rather than strength of this character. But that is not all of Cæsar. There may be a sort of irony in the presentation of him; for after his murder the speech of Antony serves to set him before the imagination of the reader as a mighty spirit whose power was to be sought, not only in the days of his earlier conquests, but in the drift toward imperialism which the conspirators tried in vain to resist. Brutus realizes the futility of his efforts when he cries out on the battlefield of Philippi, "O Julius Cæsar, thou art mighty yet!"

Whatever may be said of Shakespeare's conception of Cæsar, there can be no doubt that Brutus is the tragic figure of the play—a forerunner of that group of tragic heroes so soon to be created. A student of philosophy, a lover of books and fond of the quiet domestic scenes which had connected him with one of the noblest of women, and above all, a devoted citizen with an instinctive love of the old republic, he is totally unfitted for the stirring scenes into which he is drawn. His lack of knowledge of human nature makes him an easy prey for a more calculating man, while his failing to understand the drift of history brought upon him and his country tragic consequences. He is caught in the tangled web of things. The rare nobility of his soul combined with his

tragic end raises the question of the burden of the mystery, the heavy and the weary weight of all this unintelligible world. Of the other characters of the play Mark Antony, Cassius and Portia are drawn with consummate art. Their words have by frequent quotation become so hackneyed that the reader is apt to miss their greatness. Charles Lamb's remark about the frequent acting and reciting of Shakespeare's plays applies with special force to 'Julius Cæsar'; "The very custom of hearing anything 'spouted' withers many a fine passage." Brutus' speech to the Roman citizens justifying the murder of Cæsar, Antony's funeral oration, the appeal of Cassius to Brutus, the dialogue between Portia and Brutus and Antony's tribute to Brutus are among the glories of human speech.

EDWIN MIMS

JULIUS ECHTER VON MESPELBRONN, yoo'li-us êk'ter fôn mës'pël-brôn German Catholic prelate: b. Mespelbronn Castle, 1545; d. 1619. He received a Jesuit education at Paris and Rome and became the leader of the Counter-Reformation in his own country. Owing to his religious zeal he was made bishop of Würzburg with princely powers. He set to work to eradicate Protestantism from his see by removing all the Protestant clergy and by other coercive means; and it was his boast that he had accomplished his aims and had made more than 60,000 converts to Catholicism in three years. He founded schools, colleges and charitable institutions, among the most notable of which were Julius Hospital (1579) and the University of Würzburg (1582). Thus he became noted as one of the most active and constructive members of the Catholic League.

JULLIEN, zhu'lyăn, **Adolphe**, French musical and dramatic critic: b. Paris, 1845. He graduated in law taking, at the same time, very extensive studies in music which he continued after graduation. He began writing for musical journals, and in addition to musical criticisms and chronicles he contributed short stories to the *Français*, the *Moniteur Universel* and other periodicals. Among his published works are 'La Musique et les philosophes au XVIIIème siècle' (1873); 'Histoire du théâtre de Mde. de Pompadour' (1874); 'La comédie à la cour de Louis XVI' (1875); 'Goethe et la Musique' (1880); 'L'Opera secret au XVIIIème siècle.'

JULY, the seventh month of the calendar, which in the Roman year bore the name of *Quintilis*, as the fifth in the computation of Romulus, even after Numa had prefixed January and February. Mark Antony effected a change in its name in honor of Julius Cæsar, who was born on the 12th of the month, and thenceforth by a decree of the senate it was called Julius. It originally contained 36 days. It is said that Romulus reduced them to 31; Numa to 30. Julius Cæsar fixed the number at 31, which is still retained. The Dog-day is supposed to commence on the 3d of the month.

JULY, **Column of**, a bronze column erected on the Place de la Bastille, Paris, 28 July 1810 to the "French citizens who fought for the defense of the public liberties on the memorable days of the 27th, 28th and 29th of July, 1810."

On four hands encircling the column are the names of 615 victims of the revolution.

JULY, Revolution of, the uprising in 1830 which overthrew the Bourbon dynasty and restored the house of Orléans to the throne of France. This was the natural outcome of the reactionary tendency which had been the governing principle of the sovereigns in France since 1814. Revolutionary France was not dead and the democratic spirit was far from being smothered. But the rulers of the country seemed to believe that their own safety and that of the stable government of the country depended upon the establishment of as much arbitrary rule and autocracy as could be achieved. The Church and the extreme royalists were in the saddle; and they proposed to take the best of their opportunities to strengthen their position for all time. Louis XVIII (1814-24), with whom the restoration began, had some little ability and the advantage of having a more or less fixed policy whose great objective was to restore the power of his family and to consistently offer opposition to the growth of the influence of the bourgeoisie. To secure his ends and bind the ability to himself he had been forced to make partial restoration of the property, titles and positions of influence of the "exiles" in the face of strenuous opposition on the part of a long and influential section of the population. Backing which the Church had given the royal family made the interests of the sovereign, the nobility and the clergy one in common. In order that these common interests might be strengthened by the education of the masses in the right direction, from the view point of the Crown, all public and private instruction was placed in the hands of the Church, which proceeded to carry out an aggressive program which ran counter, at every turn, to the ideas of the strong revolutionary and democratic part of the population, the natural and legitimate heirs to the sentiments and aims of the Revolution of 1789. His ever-growing revolutionary body could not be kept from expressing itself, in a manner dangerous in the extreme to the ruling class, by the enforcement of severe laws against the liberty and freedom of the press. The Jesuits, who had been readmitted to the country following the restoration, became very active, not only as educators, but as propagators of royalist teachings, all of which were radical and extreme. Louis XVIII managed to maintain his position as head of the nation in the midst of many threatening dangers. But his successor, Charles X, who had been educated under clerical influence to the most extreme of royalistic views, was a man of little ability, weak will and poor judgment, warped by his training. He was, therefore, incapable of judging of the magnitude of the dangers by which he was surrounded. At the most critical moment in his career, when only the coolest and most liberal judgment could have saved the situation for him, he made his confident representative Count Jules Polignac (9 Aug. 1829), the most bigoted royalist and churchman among the French nobility, a man who could only see one side of the question and that only through his colored glasses. He succeeded in antagonizing the opposition as

even the unwise and undemocratic acts of the sovereigns had not done. The assemblies which met the following year (March 1830), both upper and lower houses, demanded the dismissal of the new and actively royalist ministers, who largely represented clerical influence and interests. Charles' answer, dictated by the court party, was the immediate prorogation and final dissolution of the Chambers. The natural result was that the new election increased the strength of the Anti-royalist party. This the king realized and he determined to anticipate the trouble he saw coming by the suspension of the liberty of the press and declaring the elections null and void (20 July 1830). To make sure that the next Chambers should not prove dangerous or obstructive, the edict of dissolution of the new Chambers prescribed changes in the franchise which practically restored arbitrary government. The newspapers defied the government, to carry out the edict of the suspension of the liberty of the press, and the trouble at once began in Paris. Barricades were thrown up everywhere in the eastern section of the city and the city hall and Notre Dame Cathedral were seized by the revolutionists. After three days' fighting under Lafayette and Lafitte, the revolutionists held possession of all of Paris. Suddenly, the king realizing the strength of the revolution and his own danger, withdrew his various edicts. But it was already too late and he was forced to abdicate in favor of his own grandson, the Duke of Bordeaux. Fearing the temper of the revolutionists, he fled across the border. But the Duke of Bordeaux was not destined to become sovereign of France, if for no other reason, because he was the choice of the late king. On the night of 30 July Louis Philippe, Duke of Orléans, arrived in Paris, at the call of Talleyrand, one-time minister of Napoleon I, and other prominent men of his party who had been intriguing for some time in his favor. He was at once made lieutenant general of the realm. But the choice of Louis Philippe as sovereign was opposed by Lafayette, commander of the National Guard, and his faction, who favored a republic. However, the necessity of not antagonizing the powerful Royalist party, and the diplomatic conduct of Louis Philippe, finally won over the Republicans to a continuation of the monarchy on a restricted and constitutional basis, and the Chambers bestowed the crown upon Louis Philippe (7 Aug. 1830). Although the principal part in the revolution had been played by the workingmen of Paris, still it was represented for the country as a whole by the middle classes who were still royalist in sentiment. A knowledge of the general feeling of the country induced Lafayette and the municipal committee who were, like the Paris workmen, strongly republican, to accept the compromise offered by Lafitte, Thiers and the Orleanists. But in this compromise the laboring class was singularly forgotten, an act which was pregnant with future trouble. According to the agreement with Louis Philippe a new constitution was adopted. This recognized a property qualification which gave the middle classes a very strong voting power and, consequently, influence in the affairs of the nation. But it shut out the laboring classes, who found that they

still had their battle to fight for political freedom. The Belgian and Polish revolutionary movements were more or less directly the result of the success of the July Revolution in France. Consult Fyffe, 'History of Modern Europe' (Vol. II, London 1886); Hazen, 'Europe Since 1815' (New York 1911); Lavisse and Rambaud, 'Histoire générale' (Vol. X, Paris 1898); Seignobos, 'Political History of Europe since 1814' (New York 1899); Robinson and Beard, 'Development of Modern Europe' (Boston 1908).

JUMBO, the name of a large African elephant for 25 years on exhibition at the Royal Zoological Gardens in London. The animal was purchased in 1882 by P. T. Barnum (q.v.), American showman, for \$10,000, and for three years was exhibited in the United States. Jumbo was killed in 1885 by a railroad train in Canada. He was 11 feet 6 inches in height and weighed six tons. His skeleton is preserved at the American Museum of Natural History and his skin at Tufts College, Mass.

JUMEL, zhū'mēl, **Eliza**, American heiress: b. at sea, 1769; d. New York, 16 July 1865. Her maiden name was Capet, and after her mother's death she was adopted by Mrs. Thompson, of Newport. She was a wayward, beautiful girl; at 17 she eloped with a British officer named Peter Croix, with whom she lived in New York. There she was greatly admired, and soon after her first husband's death married Stephen Jumel, who took her to Paris, where her social success was as great as in New York. After Jumel's death she married at 61 Aaron Burr (q.v.), from whom she separated soon afterward. Her home during her last years was the famous Jumel mansion, built by Roger Morris in 1758, for his bride, Mary Philipse of Yonkers. The house was Washington's headquarters during the New York campaign. It was bought by Madame Jumel in 1810, and is still preserved, its site being the Roger Morris Park, New York, which was opened 28 Dec. 1903.

JUMET, zoo'h'mā', a town in Belgium, about three miles northwest of Charleroi. It is the centre of numerous industries, including iron and coal mines, smelters, foundries and glass factories. Pop. about 30,000.

JUMILLA, hoo-mē'lyā, a city in Murcia, Spain, on the river Juá, 35 miles northwest of the city of Murcia. It is the centre of vineyards and fruit orchards, and possesses a few industries, among them being soap, cognac and wine factories. Pop. about 20,000.

JUMNA, or **JAMNA** (Sanskrit YAMUNA), a river of India which rises in the Himalayas, at the height of 10,849 feet. It flows in its upper course in a generally southwest direction, then bends to the southeast and, passing the cities of Delhi and Agra, falls into the Ganges, of which it is the chief tributary, at Allahabad, after a course of 860 miles. Important irrigation works derive their supply of water from this river.

JUMPERS, a class of religionists who manifest their devotion and feeling by jumping from the ground during the time they are assembled for worship and exhortation. They are said to have originated in the Methodist congregations of Wales during the preaching of Whit-

field (1760). They were also called "Barkers" from the incoherent guttural sounds they uttered during their excitement. They still exist in some parts of the eastern States, having emigrated to America after being repudiated by English Methodists.

JUMPING BEANS, the fruits of certain euphorbiaceous plants of the genus *Sebastiania* infested with the larvæ of certain small moths (*Carpocapsa saltitans* and *Grapholitha sebastianæ*), which by their movements make the capsules roll, and even jump as if alive. The larvæ spin cocoons in the capsules, a large part of the interior of which they have devoured, and when ready to emerge as adults, push open a previously cut circular door which has been held shut by silken threads. Several species are found in Central America and Mexico, where they are called "broncho beans."

JUMPING FISH. See MUD-SKIPPER.

JUMPING FROG OF CALAVERAS, **The Celebrated**, one of the earliest works of Mark Twain. It was published in the *Californian* and attracted considerable attention to the author, since it was at once taken up by the general public as a piece of good humorous writing. It made its way into recitation books and public recitals. Mark Twain secured a new humorous effect with a re-rendering into English from a French translation.

JUMPING HARE, or **SPRINGHAAS**, a jerboa-like animal (*Pedetes caffer*) of South Africa, as large as a hare, and much resembling one, which is now set apart in a family (*Pedetidae*) by itself. It will leap 25 or more times its own length, and where numerous does great damage at night to growing crops.

JUMPING MOUSE. See JERBOAS.

JUMPING PLANT LOUSE, an insect belonging to the *Psyllidæ* family. It receives its name on account of its prowess as a jumper. The majority of the members of this family pass their lives upon the leaves of various kinds of vegetation. Some, however, live in water. The adults sleep through the winter, but become very active with the return of warm weather when breeding begins, resulting in several successive families during the season.

JUMPING SHREW, a curious little animal of Africa, one of the insectivora of the Elephant-shrew family (*Macroscelidæ*), which has very large hindquarters and moves by leaping like a jerboa. They inhabit rocky and desert places, remain in holes and hiding places during the day and go abroad at night in search of insect food. The best known perhaps is the Cape jumping-shrew of South Africa (*Macroscelidus typicus*), which is tawny brown, about five inches in length, has a long, flexible proboscis and a long naked tail.

JUMPING SPIDERS, small spiders of the family *Attidæ*, which dwell in low vegetation and are exceedingly agile. They are usually short and stout in form, rarely more than a quarter of an inch long, and are often brightly colored, especially in the case of the males, which take curious attitudes in order to display their ornaments to the females. Cons. Emerton, 'Common Spiders of the United States' (1902).

JUNAGARH, jōō-nā'gēr, or **JUNAGADH**, jōō-nā'gūd, former state, Western India States Agency, India, in the Gujarat region of Kathiawar peninsula. It had an area of 3,337 square miles, mostly level, but hilly in the north, the highest spot being Mount Girnar (3,666 feet). The leading agricultural products are cotton, millet, oilseeds, and sugarcane.

Junagarh maintained relations with the British from 1807 until the division of India in 1947, when its Moslem ruler decided to join Pakistan. Because of its large Hindu population, a plebiscite was held in which the people voted to join the Indian Union, and in 1948 its status was referred to the United Nations. In 1949 it became part of Saurashtra. Pop. of latter (1951) 4,137,359.

JUNAGARH, or **JUNAGADH**, city, India, capital of Sorath district, State of Saurashtra, and formerly capital of Junagarh State, is located 5 miles south of Rajkot, near Girnar hill, and is a railway junction and market center. Its chief industries are hand-loom weaving, oilseed pressing, the making of gold and silver ornaments, and the manufacture of brassware, copperware, and pharmaceuticals. Pop. (1941) 8,111.

JUNCO, the common and also the scientific name of a group of North American finches. It is known as the eastern slate-colored junco (*Junco hyemalis*), also called the snowbird. The head, breast, and back of the male are dark slate, belly white. The female is similar but brown rather than slate. In both sexes, as in all other juncos, the outer tail feathers are white and show prominently in flight. A number of different races or species of juncos inhabit the forests of the western mountains south to Temala, north to Alaska. Most of them differ from the slate-colored junco by having the sides of the back rufous in color. Juncos are about six inches long. They nest on the ground and lay three or five eggs. The male has a melodious song. In the fall they gather into small flocks; they are hardy and some winter in the northern states, where they appear with the first snows, and are called the name snowbird.

JUNCOS, hōōng'kōs, municipality and town, Puerto Rico, 21 miles southeast of San Juan. Chief industries are the raising of tropical fruits, sugarcane and the manufacture of products of the latter. Population of the municipality (1940) 19,464; town (1950) 8,285.

JUNCTION CITY, jūngk'shūn sīt'ī, city, Kansas, and Geary County seat; altitude 1,077 feet; at the junction of the Republican and Neosho Hill rivers; 72 miles west of Topeka; on the Union Pacific, and Missouri-Kansas-Texas roads. In a wheat and cattle raising section, the city is an important shipping point for grain, corn, livestock, and the magnesium limestone quarried nearby. It has railway repair shops, breweries, dairies, and manufactures of flour, shoes, and military uniforms. Three miles northeast of the city, at a point marking the geographical center of the United States, is the military reservation and Army post, Fort Riley (see). The city was founded in 1858 and incorporated in 1859. Pop. (1950) 13,462.

JUNE, Jennie. See CROLY, JANE C.

JUNE, the sixth month in the calendar. The etymology is uncertain. Vossius gives three etymologies of the name—one from Juno; another from *junco* (to join), referring to the union between the Romans and Sabines under Romulus and Titus Tatius; a third from *juniores* (the young men), Romulus having been said to have assigned the month of May to the elders, and that of June to the young men, when he divided the people into these two great classes, the former to serve in counsel, the latter in war. The name has also been traced to Junius Brutus, the first consul. It consisted originally of 26 days, to which it is said Romulus added four, and Numa took away one. Julius Caesar again lengthened it to 30 days, and it has ever since remained unaltered.

JUNE BEETLE or **FIGEATER**, a green and brown beetle (*Cotinus nitida*) of the family Scarabaeidae common in the central and southern United States. The adults often eat figs, peaches, small fruits, and corn. The larvae are white grubs which resemble their northern relatives. (See MAY BEETLE.) They normally feed upon decaying vegetable matter in the soil and not on living roots of plants.

JUNE BUG. See MAY BEETLE.

JUNE GRASS. See BLUE GRASS; GRASSES.

JUNEAU, zhū-nō'; Angl. jōō'nō, Solomon Laurent, American pioneer: b. L'Assomption Parish, near Montreal, Canada, Aug. 9, 1793; d. Shawano, Wis., Nov. 14, 1856. He emigrated to Green Bay, Wis., and thence in 1818 to Milwaukee, where he was active in trade with the Indians. He was not, as has been sometimes stated, the first white settler on the site of Milwaukee. A grant of considerable land had there been made by the Indians to one Mirandean, a previous resident, and of this grant, Juneau, on Mirandean's death, secured possession. Juneau made the first survey of Milwaukee village, was its first postmaster and president, and the first mayor of the subsequent city. On ground presented by him he helped to build the first courthouse in the state. For years he was agent for the American Fur Company. A statue of him was placed in Juneau Park, Milwaukee, in 1884.

JUNEAU, jōō'nō, Alaska, capital of the territory and headquarters of most of the federal departments of government. It is situated on the mainland side of Gastineau Channel, and behind it tower Mount Juneau and Mount Roberts. The Glacier Bay National Monument lies to the northwest. The Alaska-Juneau gold mine on the slope of Mount Roberts, once the world's largest, is now closed, but Juneau has a large fishing fleet, fish processing plants, two sawmills, and a plywood plant, and is a trade and transportation center. There are two radio stations, a daily and a weekly newspaper, and it may be reached by either plane or boat. Pop. (1950), 5,956.

JUNEBERRY. See AMELANCHIER.

JUNG, yōōng, Carl Gustav, Swiss psychologist: b. Basel, July 26, 1875, where he was educated and graduated in medicine. Through common aims he met Sigmund Freud in 1906; but with his

publication of *Wandlungen und Symbole der Libido* in 1912 (*Psychology of the Unconscious*, 1921) which expressed concepts antipathetic to Freud, their six-year friendship ended. Jung was the first to recognize the psychical complex. He introduced the terms *introversion* and *extroversion* to describe basic psychic attitudes; and he considers *thinking, feeling, sensation* and *intuition* to be basic psychic functions. The psyche is divided into the *subjective-psyche* (consciousness), the personal unconscious, and the *objective-psyche* (collective unconsciousness); between these there exists a complementary and compensatory relationship. Thus through analysis and understanding of the symbolism of dreams, fantasies and visions factors may be deduced which when integrated to consciousness will resolve the existing psychic conflict or neurosis. The therapeutic method, to which Jung gives the name of Analytical Psychology, is prospective, aiming at psychic equilibrium through self-realization by means of a dialectical procedure. Other major works include: *Collected Papers on Analytical Psychology* (1916); *Studies in Word Association* (1918); *Psychological Types* (1923); *Contributions to Analytical Psychology* (1928); *Two Essays on Analytical Psychology* (1928); *Modern Man in Search of a Soul* (1933); *Psychology and Religion* (1938); and *The Integration of the Personality* (1940).

See also ANALYTICAL PSYCHOLOGY.

RICHARD C. MATTHEWS,
Analytical Psychologist, Denver, Colorado.

JUNG, yöong, **JUNGE**, or **JUNGIUS**, Joachim, German naturalist: b. Lübeck, Oct. 21, 1587; d. Hamburg, Sept. 17, 1657. He was professor of mathematics at Giessen (1609–1614). He received his doctor's degree in medicine from Padua in 1618. He was professor of mathematics at Rostock in 1625 and rector of the Hamburg Johanneum (1628–1640). He was one of the first consistent students of the natural sciences more particularly physics, entomology, and botany. He attempted to make a classification of plants by genera and species and to provide nomenclature.

JUNG BAHADUR, bà-hä'döör, SIR Maharajah, East Indian ruler: b. 1816; d. Feb. 25, 1877. After holding various important offices, he became prime minister of Nepal. Several attempts were made to assassinate him; but he succeeded in getting the better of his enemies, of becoming practically an absolute ruler and of establishing order throughout his domains. He supported the British during the Indian mutiny (1857–58).

JUNG-STILLING (real name JOHANN HEINRICH JUNG; pseudonym HEINRICH STILLING), German author: b. near Hilchenbach, Westphalia, Sept. 12, 1740; d. Karlsruhe, April 2, 1817. In 1768 he went to Strasbourg to study medicine where he met Goethe who introduced him to Herder. He practiced medicine at Elberfeld until 1778, and in 1778, became a professor of economics at Kaiserlautern and later at Marburg. He returned in 1803 to Heidelberg, and in 1806, was pensioned by Charles Frederick of Baden. His first work, *Heinrich Stillings Jugend* (1777), was strongly influenced by Goethe, and was edited by him. This later became a part of a five volume mystic autobiography published in 1806.

JUNGBUNZLAU. See MLADA BOLES-LAV.

JUNGES DEUTSCHLAND, a literary and political movement in Germany culminating in 1835, and not related with the simultaneous and more important movements known as Young Italy and Young Europe. There never was much organization or consultation between the writers composing it (Heine, Laube, Gutzkow, Mundt, Wienbarg), but they were connected by the similarity of their aims and methods, and by the fact that the Bundestag at Frankfurt in 1835 (having read a denunciation of these men, written by Wolfgang Menzel), issued a decree forbidding the circulation of all past and future writings of the five men concerned, and characterized their movement as "Junges Deutschland," a term first used by Wienbarg in his *Aesthetische Feldzüge*. Basing their principles on stimulus received from recent emancipated French writers, these Young Germans opposed, in a literary way, the political reaction in Germany, the predominant tendencies in literature, and the sectarian Christianity of their day. Both Jesuitism and Protestant orthodoxy were then very strong in Germany, and to these influences the Young Germans opposed the socialistic tendencies emanating from the French July Revolution (1830). Their chief object was to reinvigorate both state and church by the injection of an esthetic culture, thus making both institutions more accessible to larger outlooks. Soon, however, the free unfolding of the individual character became their principal goal. State and church came to be regarded as mere hindrances, and national affiliation was considered to be a base ideal, in no way comparable with Goethe's great conception of a world literature (*Weltliteratur*). The immediate demands of the Young Germans included an emancipation of the Jews and complete freedom for women.

Consult Houben, H. H., *Jungdeutscher Sturm und Drang* (Leipzig 1911); Bloesch, H., *Das junge Deutschland in seiner Beziehung zu Frankreich* (Bern 1903); Proelss, Johann, *Das junge Deutschland* (Stuttgart 1892); Brandes, Georg, *Das junge Deutschland* (Leipzig 1891).

JACOB WITTMER HARTMANN.

JUNGFRAU, yöong'frou (Ger. for maiden), a mountain in Switzerland in the Bernese Oberland, on the border between the cantons of Bern and Valais, approximately 12 miles south-east of Interlaken. One of the most magnificent mountains in Europe, it was first ascended by the Meyer brothers, of Aarau, Switz., in 1811. The Jungfrauabahn, a cog-railway, takes visitors to the Jungfrauoch, at an altitude of 11,340 feet. Located there are the International Alpine Institute for Scientific Research, an Astronomical Observatory, belonging to the University of Geneva, and a meteorological tower on the Sphinx, altitude 11,716 feet. The Aletsch Glacier, situated on the south side, is the largest in Europe. The famous Ice Palace is 66 feet below the surface at an altitude of more than 11,000 feet. The altitude of the Jungfrau 13,669 feet.

JUNGHUHN, Franz Wilhelm, Ge physician and naturalist: b. Mansfeld, Oct. 1809; d. Lembang, near Bandoeng, Java, Apr. 24, 1864. He studied medicine at Halle and Berlin entered the Prussian Army, later joined

he French in Algiers, and finally settled in Java. He explored the Netherlands East Indies, especially Java and Sumatra.

Among his published works are *Topographische und naturwissenschaftliche Reisen durch Java mit einem Atlas* (1845); *Die Bütteländer auf Sumatra* (1847); *Java deszelfs gedaante Bekleedingen inwendige Structuur*, 5 vols. (1850-53); *Java; seine Gestalt, Pflanzendecke und innere Blauart*, 3 vols. (1852-54).

JUNGLE, The, a novel by Upton Sinclair (q.v.), written for a socialist paper, *The Appeal to Reason*, and published in 1906. Based on an observation of the Chicago stockyard conditions in 1904, it was responsible for instigating an investigation of the packing industry by the United States government under Pres. Theodore Roosevelt, which resulted in the passing of the Pure Food and Drug Act of 1906.

Jurgis Rudkus, Slav immigrant had come to Chicago in the hope of finding a comfortable existence for his family. He finds employment in the Packingtown District and discovers the worst phases of industrial Chicago. In the struggle to survive, his young, frail wife, Ona, is forced to work in the packing plant also, and the hard work causes her death in childbirth. After several unfortunate accidents which kill his young son, revent his working, and ultimately cause him to be jailed, Jurgis tires of the struggle and becomes in turn a tramp, a thief, and a beggar. A corrupt political boss hires him, but dispenses with his services as soon as the political scene changes. Jurgis, once more penniless, attends a socialist rally and the book ends with his finding hope through socialism. Written with striking realism, the novel is filled with quiet, unceasing desperation. "Such were the cruel terms upon which their lives were possible, that they might never have nor expect a single instant's respite from worry, a single instant in which they were not haunted by the thought of money." An existence based upon such terms can lead to nothing but degradation and criminality. It has often been said that vice leads to misery, but it can also be said that misery leads to vice. *The Jungle* with its photographic realism and intense social criticism is said to be the closest counterpart to Zola in American fiction.

JUNGLE BOOK, The, collected stories by Rudyard Kipling, published June 2, 1894, in which the animals are leading actors. *The Second Jungle Book* followed on Nov. 16, 1894. The first volume, *The Jungle Book*, narrates in nine magical tales the history of Mowgli, reared from babyhood in the jungle by fostering wolves—how he is adopted as one of the wolf-pack, how he is instructed and befriended by Baloo the wise bear, Kaa the python and Bagheera the black panther, how he is rescued from the Bandar-Log or Monkey People, how he slays Shere Khan, the tiger, how he becomes the acknowledged master of the jungle, and finally how he returns to his own kind, yet still remains in touch with the jungle-dwellers. The collection is diversified by interludes in verse, such as "The Law of the Jungle" and the "Road-Song of the Bandar-Log" which accentuates the satire embodied in the description of the boastful, scatterbrained Monkey folk. *The Second Jungle Book* contains seven stories, among them that of "Rikki-Tikki-Tavi" the mongoose, "Toomai of the Elephants," "The Undertakers"—which is concerned with three sinister scavengers, the crocodile, the jackal and the

adjutant crane,—and "The Miracle of Purun Bhagat," a beautiful tale of an old recluse and the beasts that loved him. "To those who read between the lines," says Frederic Taber Cooper, "the Jungle Books are far more than a new childhood classic. They are the life of modern India, told in allegory, and in Kaa and Bagheera and all the rest we have the types of native life, with its stored-up wisdom of old, primeval instincts, its simplicity of outlook upon the present-day world." Kipling's animals are peculiarly convincing. They act and talk—when they do talk,—in accordance with their animal characteristics, and never give the impression that they are humans masking in fur, feathers or scales.

ARTHUR GUITERMAN.

JUNGLE CAT, or CHAUS, the common wildcat of India (*Felis chaus*). It is 26 inches long in head and body, has a short tail, reaching only to the heel, and is yellowish gray, more or less dark and unspotted, tinged with reddish on the sides, marked by a dark stripe from the eyes to the muzzle, and with reddish black ears slightly tufted. Another Indian jungle cat is the handsome *F. ornata*, which is profusely spotted; it dwells in the desert regions of the Northwestern provinces. Both these cats are said to interbreed with domestic cats, and thus no doubt long ago influenced the varieties of the tamed stock.

JUNGLE FEVER, a severe variety of remittent fever, prevalent in the East Indies and other tropical regions.

JUNGLE FOWL, any of several species of the genus *Gallus*: the *Gallus gallus*, the common jungle fowl from which the *bankiva* of Java is believed to have descended, inhabits parts of India; *G. varius* is found in the Malay islands; the *G. lafayetti* in Ceylon; and the *G. sonnerati*, the gray jungle fowl, is found in western and southern India.

JUNGMANN, yōng'mān, Josef Jakob, Czech philologist and literary man: b. Hudlitz, Bohemia, July 16, 1773; d. Prague, Nov. 11, 1847. Graduated from Prague in law and philosophy, he became a teacher in the gymnasium at Leitmeritz (1799-1815); and in the same capacity at Prague (1815-1835). He was rector for the following 10 years. He attempted to awaken the Czech spirit of nationality and to interest the people as a whole in their national language, to prove the literary capacity of which he made translations from English, French, and German, among his translations being Milton's *Paradise Lost* (1811), Chateaubriand's *Atala* (1805), and Goethe's *Hermann and Dorothea*. His original work consisted of *A History of Czech Literature and Language* (1825) and a dictionary of the Czech language, 1835-1839. His influence for good was very powerful on his own language and his help to philology very considerable.

JUNIATA, jōō-nī-āt'ā, Pa., former borough in Blair County, now a northeastern suburb of Altoona, to which it was annexed in 1929. Juniata is on the Pennsylvania Railroad, and has large railroad shops and silk mills.

JUNIATA RIVER, in Pennsylvania, rising in the Allegheny Mountains and flowing through

beautiful country for about 150 miles and emptying into the Susquehanna River about 15 miles northwest of Harrisburg. The Juniata is not a navigable stream, but from its source to its mouth its banks are followed by the Pennsylvania Canal and the Pennsylvania Railroad.

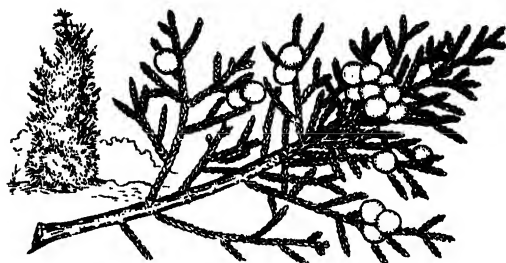
JUNIN, hōō-nēn, a department, Peru, in the interior, bounded on the north by Huanuco, east by Cuzco, south by Ayacucho and Huancavelica and west by Lima. It has an area of 22,820 square miles. The western portion is more elevated than the eastern, but the latter is densely wooded. Agriculture is neglected and large deposits of silver, copper, coal, and salt remain unworked. Cereals, coffee and sugar are the principal crops, but of the greatest importance is the copper industry. A railroad connects the southern part to Lima and the coast. The capital city is Huancayo. Pop. (1944) 500,161.

JUNIN, or **CHINCHAYCOCHA**, chēn-chī-kō'chā, lake, Peru, situated at an altitude of 12,225 feet in the department of the same name. It is 25 miles long and seven wide.

JUNIOR HIGH SCHOOLS. See EDUCATION, SECONDARY; EDUCATION IN THE UNITED STATES—Educational Organization.

JUNIPER, a genus (*Juniperus*) of ornamental evergreen trees and shrubs of the family Juniperaceae, consisting of about 40 species, distributed mainly throughout the cooler parts of the northern hemisphere. The species have branches which spread in all directions from the main trunk and limbs, small, rigid, needlelike or scalelike, opposite leaves; unisexual flowers, the two sexes usually upon separate plants, the staminate yellow and in catkins, the greenish pistillate ones followed by fleshy or dry, berrylike cones containing from one to six, sometimes 12 seeds, which may not attain maturity until the second or third year. The best-known species in the United States is probably the Virginia juniper, red cedar or savin (*Juniperus virginiana*), to be found widely dispersed east of the Rocky Mountains, upon rocky and sandy soils, mountain sides, etc. It sometimes attains 100 feet in height, its upright or spreading branches forming a handsome conical head. Its numerous attractive horticultural varieties are largely planted in parks and cemeteries. The trunks are highly prized for fence posts, being exceedingly durable; the handsome red heartwood is valued for turning, cabinet-work, cooperage and especially for lead pencils; but the tree is looked upon with disfavor by the orchardist, because it is one of the hosts of apple rust.

The common juniper (*J. communis*) is a smaller species, rarely reaching 50 feet in height and usually less than 25 feet tall, and many of its numerous varieties less than 10 feet. It is widely distributed throughout the northern hemisphere, especially in the colder latitudes and altitudes. Like the preceding species its wood is valued, when of sufficient size, for posts, veneers, pencils and for turning. The tree itself is also used for ornamental planting. Its bark is sometimes twisted into ropes and its long, tough, fibrous roots are used for making baskets. Its blue-black fruit, which it yields profusely, is used for flavoring certain liquors, as is also the oil obtained from them and from the twigs by distillation with water.



Juniperus virginiana. Profile of tree, close-up of twig with fruit.

The Bermuda cedar (*J. barbadensis*) resembles the Virginia juniper, but is of stouter build, though it rarely exceeds 40 feet in height. Its wood is rather more fragrant than that of the preceding species like which it is used. Formerly it was employed in the ships built in the Bermudas, but the forests which supplied this industry were mismanaged and the industry perished. Several other species are of more or less economic importance; for instance, the Spanish juniper (*J. oxycedrus*), a shrub which attains a height of about 12 feet, whose fruits yield a disagreeable smelling oil (oil of cade), used in veterinary medicine; and African juniper (*J. procera*), a useful timber species and probably the largest of the genus, often attaining heights of 150 feet in the mountains of eastern Africa, where it is native. A number of species occurring in western North America are of great economic importance.

Junipers succeed best in moderately moist, sandy loam in open, sunny situations. They make excellent windbreaks and shelter belts, especially where the soil is too dry, rocky or gravelly for other trees. They may be propagated by seeds which, however, usually require two, sometimes three, years to germinate. Cuttings of almost mature wood may be taken in the autumn from the needle-leaved kinds and grown under glass or in the open; species with scalelike leaves are generally side-grafted in the greenhouse during winter. Some of the shrubby species are propagated by layers.

JUNIPERO SERRA (originally MIGUEL JOSÉ SERRA), Spanish missionary in America: b. Majorca, Nov. 24, 1713; d. Monterey, Calif., Aug. 28, 1784. He became a member of the Franciscan Order in 1729, and in 1750 arrived in Mexico City as a missionary. In 1769 he went to the present site of San Diego, Calif., where he founded a mission. He gathered about him a band of 16 of the Franciscan Order and these missionaries converted over 3,000 Indians of whom Junipero himself is said to have baptized more than 1,000. He instructed the natives in the arts of civilization and the colonies which assembled about the mission stations constituted the first settlements in California. His headquarters were at Monterey, but he founded several other missions. Bret Harte incorrectly gives his name as Serro.

JUNIUS, jōōn'yūs; jōō'nī-ūs, **Franciscus** German-born philologist and antiquary: b. Heidelberg, 1589; d. 1677. The boy was brought to Leyden when three years old and there he was educated under his brother-in-law, Gerhard Vossius, a noted philologist. In 1821 he went to England, where he became librarian to the

Earl of Arundel, a position he held for 30 years. During these and following years he devoted his time to study, research and writing. Among his works are 'De Pictura Veterum' (with an English version, 1637); 'The Gothic Gospels of Uffilas' (1665); and 'Glossarium Goticum' (1664-65). This latter is in five languages. These and other valuable manuscripts of his are in the Bodleian Library, Oxford.

JUNIUS, Letters of, a remarkable series of political letters that were published in the London *Public Advertiser* over the pseudonym of "Junius," between 21 Jan. 1769 and 21 Jan. 1772. These epistles greatly stirred the English political world, for they were written with a wide and intimate knowledge of affairs, shrewd political sagacity, literary felicity and a certain waspish malignity. No bolder or more audacious comments on the actions and characters of public men have ever appeared in the English language. So merciless were they in their cold-blooded vivisection and more or less polished abuse of the policies of Granby, Butc, Grafton, Bedford, Mansfield and, to Burke's horror, scathing even the sacred majesty of the king, that extraordinary efforts were made to discover their author. But Junius, whoever he was, escaped detection in his lifetime and, since the days of George III, the question of his identity, though frequently raised in England and America, has never been satisfactorily settled. At the close of his correspondence Junius edited the letters for the publisher of the *Public Advertiser*, Henry Sampson Woodfall, with an explanatory preface and a "Dedication to the English Nation." He also included a few letters he had written under other pseudonyms than "Junius." The whole was published in two volumes by Woodfall in 1772. A later edition, published by Woodfall's son and edited by Dr. Mason Good, appeared in 1812. Good introduced 113 extra letters; some of these had passed between Woodfall senior and Junius, but the majority had been collected by Good from the *Public Advertiser* and attributed to Junius without the slightest proof of their authenticity. It was these interpolated letters that gave rise to the accusation of inconsistency frequently leveled against Junius. Some 60 different individuals have at various times been brought forward as the real Junius, among them being Edmund Burke, Edward Gibbon, Lord George Sackville, Lord Chatham, Sir Philip Francis, Colonel Barré, John Horne Tooke, Lord Temple, General Charles Lee, Hugh M. Boyd, Lord Chesterfield, Horace Walpole, etc. Junius wrote his letters in a disguised hand; he described himself as "a man of rank and fortune," asserted that he was the sole depository of his own secret, and that it should perish with him. From external evidence and fortuitous coincidences, plausible cases have been made out to establish the identity of at least 10 different contemporaries with the unknown Junius. From internal evidence, however, including style, ability, circumstances, ages, chronology and motives, in addition to solemn denials by several reputed authors of the letters, the claims and pretensions of any of the remainder have hitherto failed to obtain a unanimous verdict. Curiously enough, all the advocates base their evidence on similarity of handwriting. Apparently the strongest claim

was that made on behalf of Sir Philip Francis (1740-1818) by Taylor in 1816 and elaborated by a grandson, H. R. Francis, in 'Junius Revealed' (London 1894). The publication of 'The Francis Letters' (2 vols., London 1901), a mass of private and public correspondence, went some way, negatively, to prove that Sir Philip was not Junius. The best criticisms on the disputed authorship may be found in C. W. Dilke's 'Papers of a Critic' (Vol. II, London 1875) and the *North American Review* of October 1829 and April 1832. Consult Britton, J., 'The Authorship of the Letters of Junius Elucidated' (London 1848); Chabot, C., 'Handwriting of Junius' (London 1871); Coventry, 'Critical Inquiry into the Letters of Junius' (1825); Dwarries, Sir F., 'Some New Facts as to the Authorship of the Letters of Junius' (London 1850); 'Junius Unmasked' (Boston 1828); Jacques, 'History of Junius' (1843); Newhall, I., 'Letters of Junius' (Boston 1818); Parke and Merivale, 'Life of Francis' (London); Vicarius, 'The Junius Letters' (London 1903); Wade, J., 'Junius' (2 vols., London 1850), generally called *Woodfall's Edition*, and occasionally reprinted; based entirely upon Good (1812) it contains all his blunders. Waterhouse, B., 'An Essay on Junius and his Letters' (Boston 1831).

JUNKER, yün'kēr, Wilhelm, Russian explorer: b. Moscow, 1840; d. 1892. Educated at Saint Petersburg, Göttingen, Berlin and Prague, he visited Iceland (1869), Western Africa (1873), Tunis (1874), lower Egypt (1875), and went up the Blue Nile to Khartum (1876). After three years spent in this region, he returned to Europe, but went back the following year (1879) to continue his explorations at the head waters of the Nile. In 1886, after numerous adventures, he reached Zanzibar. On his return to Germany he published 'Reisen in Afrika' (Vienna 1889-91), in which he gives an account in three volumes of his travels and adventures.

JUNKERS, yoong'kērz, a name given to the younger members of the nobility of Prussia and the adjoining states. "Junkerthum" (aristocratic manners) was a term of reproach used in the 19th century to designate the party of reaction in Prussia, which found its most strenuous supporters among the nobility. "Junkerei" signifies the behavior of young aristocrats; aristocratic arrogance; in German slang a baker's apprentice is sometimes called a junker.

JUNKIN, George, American Presbyterian clergyman: b. near Carlisle, Pa., 1790; d. 1868. He was graduated from Jefferson College (Pa.), in 1813 and entered the Presbyterian ministry in which he became prominent as a leader of the party known as Old School Presbyterians. He founded Lafayette College at Easton, Pa., in 1832, and was its president till 1841; returning thither in 1845, after three years spent as president of Miami College at Oxford, Ohio. In 1848 he became president of Washington College (now Washington and Lee). He was an outspoken upholder of slavery, but was opposed to secession, and on account of his Union sentiments resigned the presidency of the college in 1861. He spent over \$10,000 of his own and his wife's fortune to meet the current expenses of Lafayette College. He was the

father-in-law of Gen. "Stonewall" Jackson. He published 'Political Fallacies' (New York 1863) and several religious works. Consult 'Life' by D. X. Junkin (Philadelphia 1871).

JUNKS, large flat-bottomed vessels, ranging from 100 up to 1,000 tons burden, used by the Chinese. They have three masts, and a short bowsprit placed on the starboard bow. The masts are supported by two or three shrouds, which, at times, are all carried on the windward side. On the fore and main mast is a sort of lug-sail, of cane or bamboo matting.

JUNO, the most exalted divinity of the Latin races in Italy next to Jupiter, of whom she was the sister and wife; the equivalent of the Greek Hera. She was the queen of heaven, and under the name of Regina (queen) was worshiped in Italy at an early period. She bore the same relation to women that Jupiter did to men. She was regarded as the special protectress of whatever was connected with marriage. She was also the guardian of the national finances, and a temple, which contained the mint, was erected to her under the name of Juno Moneta on the Capitoline.

JUNOT, Andoche, ǎn-dōsh zhu-nō, DUKE OF ABRANTES, French marshal: b. Bussy-le-Grand, Côte d'Or, 23 Oct. 1771; d. Montbard, 22 July 1813. He was intended for the bar, but on the outbreak of the revolution joined a volunteer battalion, and soon attracted notice. At the siege of Toulon, in 1793, he became secretary to Napoleon, and went with him into Italy and Egypt in the capacity of aide-de-camp. In Egypt he was advanced to the rank of general of brigade. In 1800 he was made commandant of Paris, and he particularly distinguished himself at the battle of Austerlitz in 1805. In 1807 he was sent with an army into Portugal, and made his entry without opposition into Lisbon, his success being rewarded with the title of Duke of Abrantes. On the arrival of the British he was defeated at Vimeira, and was then obliged to submit to the humiliating convention of Cintra. Although he subsequently took part in the campaigns (1809) against Austria, (1810) against Spain and (1812) against Russia, he failed to retrieve his reputation. In 1813 he became insane, and lost his life by leaping from a window.

JUNOT, Laure, DUCHESS OF ABRANTES, a French writer: b. 1784; d. Paris, 1838. Her real name was Laurette de Saint-Martin-Permon. She was married to General Junot in 1799; and she eventually became a social leader at the court of Napoleon I. Her extravagance ruined her husband who died in 1813. About this time she turned to literature of a historical and reminiscent nature; and succeeded in keeping herself, for some considerable time, in the public eye. Her 'Memoires' (1831-35) consist of 18 volumes of diffuse material, much of it of interest as reflecting the manners and customs of the times. She also published other works of a like nature from which she earned considerable income; but her boundless extravagance finally left her penniless and she died in a charitable institution.

JUNTA, hoon'ta, Spanish assembly; a high council of state; a term common in all Spanish-speaking countries. It is generally also applied to any gathering or body of men. It was

originally applied to an irregularly summoned assembly of the states, as distinguished from the cortes or parliament regularly called together by the authority of the king. In Cuba the term was adopted by the insurgents before the Spanish-American war, to designate the general legislation of the Cuban republic abroad. This legislation or junta was first appointed 19 Sept. 1895 by the Constituent Assembly that formed the insurgent Cuban government, which at the same time made T. Estrada Palma head of the junta and chief Cuban representative abroad with authority to appoint ministers to all governments and to have control of Cuba's diplomatic relations and representatives throughout the world. See CUBA.

JUNTO, The, a club formed about 1727 in Philadelphia by Benjamin Franklin for mutual improvement. Morals, politics, and natural philosophy, as well as the social well-being of man were the main subjects discussed. It continued for about 30 years. The name was also applied to an English Whig ministry in the reign of William III, the chief members of which were Admiral Russell, Somers, Lord Wharton and Montague, the great financier. This was the first ministry ever made of one and the same party politics. It was the suggestion of Robert earl of Sunderland, to William III, after the former's return from exile in 1691. See also AMERICAN PHILOSOPHICAL SOCIETY.

JUON, yoo'ōn, Paul, Russian musician. b. Moscow, 1872. Educated in music in Moscow and Berlin, where he won the Mendelssohn scholarship, he became a teacher in the Bakst Conservatory. In 1906 he became professor of Musical composition in the Hochschule at Berlin. As a composer he has paid considerable attention to the folk-lore of Russia. He has inventive power and originality, and his music covers a wide range; but throughout it is Slavic in character. His chamber music is undoubtedly his best; for in this he is unsurpassed by any of his contemporaries.

JUPATI, joo'pā-tē, a palm (*Raphia tadarag*) of the tide-flooded lands of the lower Amazon and Pará rivers, remarkable for its leaves, probably the largest in the vegetable kingdom. The trunk is only six or eight feet high, and one foot in diameter. The leaves rise nearly vertically from the trunk, bending out on every side in graceful curves, forming a magnificent plume 70 feet in height and 40 in diameter. Leaves have been measured 50 feet long, and the leaf-stalk is often 12 or 15 feet long below the first segments of the leaf, and four or five inches in diameter, perfectly straight and cylindrical, and when dried light and strong as the quill of a bird. The Indians split it into laths for a variety of purposes—window-shutters, boxes, bird-cages, partitions, and even entire houses being constructed of it, with the addition of a few supporting posts at the angles. The fruit, a large oblong drupe, has a bitter oily flesh.

JUPITER, joo'pī-tēr, or **JUPPITER**, the supreme deity of ancient Rome, the same as the Greek Zeus. As the supreme deity Jupiter received from the Romans the title of *optimus maximus* (best greatest), and as the deity presiding over the sky he was considered as the originator of all the changes that took place in the sky. From him accordingly proceeded

rain, hail and the thunderbolt, and he it was that restored serenity to the sky after it had been obscured by clouds. Hence the epithets of Pluvius (rainy), Tonans (thundering), etc., were applied to him. The most celebrated of his temples was that on the Capitoline Hill dedicated to him as Jupiter Optimus Maximus, jointly with Juno and Minerva. He was represented with a sceptre as symbolical of his supreme authority. He was the guardian of all property; and every Roman was believed to be under his protection and that of his consort Juno, the queen of heaven. White animals were offered up to him in sacrifice, his priests wore white caps, and his chariot was represented as drawn by four white horses. See JUNO.

JUPITER, the largest member of the solar system except the Sun itself. In fact, both in mass and volume it more than equals all the other bodies, large and small, added together. In brilliancy, only Venus and most occasionally Mars surpass it, its stellar magnitude varying from -2.5 to -2.1 respectively at the most and least favorable oppositions. At an average conjunction, however, could it be seen behind the Sun, it would be only -1.4 . Its orbit lies outside the Earth's; therefore, it can at opposition remain above the horizon all night long. Often it is the brightest object in the heavens. As it takes 12 years to complete its orbit about the Sun, and as there are 12 constellations in the Zodiac in which it is always found, obviously it traverses one constellation yearly. The semimajor axis of its orbit is 483,870,000 miles, which equal 5.203 astronomical units. The eccentricity is 0.0484, so at perihelion the distance to the Sun is about 23,400,000 miles less, and at aphelion 23,400,000 more, than the above value. The sidereal period is 4332.6 days or about 11.86 years, while the synodic period, which is the length of time from one opposition to the next, is 399 days. At mean distance the apparent equatorial diameter of Jupiter's disk is $46''.86$, of the polar $43''.74$, which indicates at once the considerable solar flattening of about $1/15$. These figures correspond to diameters of 88,000 and 82,900 miles respectively. The disk's elliptical shape is plainly seen even with a small telescope. The volume of Jupiter is 1,323 times that of the Earth. Its mass, however, which is independent of its volume, is only 317 times greater; hence its density is 1.32 that of water, and slightly less than that of the Sun, which is 1.41 . Its mass in terms of the Sun is $1/1047.4$. This is so large that the center of gravity of Sun and Jupiter actually lies slightly outside the former's surface. Due to the planet's great centrifugal force at its equator, objects at the poles weigh 15 per cent more than at the equator. On the Earth this value is only $1/189$.

The greatest elongation of the Earth from the Sun as seen from Jupiter is 12° , hence Jupiter shows no appreciable phase effects except, at quadrature, a slight darkening of the limb farthest from the Sun. The center of the disk is brighter than the edges, an effect much accentuated in photographs of the planet. This effect is due to the light of the Sun, by which alone the planet shines, being reflected mostly from layers lying some distance below the outer one. Near the planet's limb, where such light comes back to us almost tangentially, it has to penetrate far thicker layers than does that nearer the center of

the disk; hence the greater relative brightness of the latter regions. Former suppositions that there might be some inherent light are now wholly discarded. The albedo or reflecting power is high, being 44 per cent of the incident solar light. This would indicate reflection from a cloud-covered planet. Jupiter receives only 0.037 times as much heat and light per square mile as does the Earth. Its equator is inclined only 3° to the plane of the orbit; hence seasonal effects are practically nonexistent. The more recent measures of the temperature of that level in Jupiter's atmosphere which reflects the solar radiation is -140°C . As this temperature can readily be explained by the amount of heat received from the Sun, there seems no grounds for believing that it is appreciably, if at all, affected by the planet's internal heat.

Surface Features.—The planet's color is yellow, but examination shows several approximately parallel belts, of varying width, which are generally red-brown in color. They run parallel to the planet's equator and are semipermanent. This means that while the belts as a whole remain, their numerous details may change conspicuously, sometimes in relatively short periods of time. Therefore, with a large telescope and high power Jupiter is by far the most interesting of all planets, with the possible exception of Mars. The spaces between the belts are usually called *zones* and therefore form the brighter portion of the disk. The belts were discovered in 1630 by Nicolas Zucchi and Daniel Bartoli. Using the designations adopted in the French *Annuaire Astronomique*, we have in order: south polar region, south temperate belt, south temperate zone, south tropical belt, equatorial zone, north tropical belt, north temperate zone, north temperate belt, and north polar region. As details remain visible for weeks at a time, it is easy to derive the rotation period. This was approximately determined as early as 1662 by Robert Hooke. The equatorial zone rotates in $9^h 30^m 30^s$, while zones and belts to the north and south take from $9^h 55.1^m$ to $9^h 55.9^m$, and do not increase regularly with greater latitude. Single spots have rotated as fast as $9^h 48^m$ or as slow as $9^h 59^m$. This proves that we see no solid surface but the top surfaces of great cloudbelts resembling the trade-wind belts on the Earth. Remembering that a point on Jupiter's equator moves about 27,000 to the Earth's 1,000 miles per hour while the quantity of solar heat is not quite 4 per cent, atmospheric circulation must be on a quite different scale. With a high power, the edges of the belts are by no means straight or regular, but the belts appear as if made up of masses of cumulus clouds, partly overlapping. Spots of contrasting color are seen at times in both belts and zones, but no single detail remains visible indefinitely without changes of shape and often of relative position. Studies have been made also of changing colors in certain zones which indicate that these changes are correlated with turbulence in other regions.

Great Red Spot.—This marking first attracted general attention in 1878, but had been seen and drawn clearly enough for subsequent identification as early as 1831. It is even possible that it was seen by Hooke in 1664 or by Giovanni Cassini in 1665. Since 1878 it has been under careful observation as to size, color, and position on the disk. It is roughly 30,000 miles long by 8,000 miles wide, oval in shape, of

changeable color and lies at latitude 20° south. When most conspicuous it has been an intense brick-red; sometimes it has been quite invisible, its position indicated only by the hollow it made in the south edge of the south tropical belt. From its semipermanence we might be disposed to think that here at last was an "island" projected up through the clouds. But even this "island" is in motion, referred to a hypothetical solid nucleus below, which would rotate at a uniform velocity. To prove this point a period of $9^h 55^m 40.6^s$ —which by the way was then quite satisfactory for the spot—was selected, and the position of its center in 1894 chosen as longitude 0° . Up to 1902 the longitude increased as far as 46° ; it then decreased to 8° in 1910. A year later it had retrogressed to longitude 328° . Since then its fluctuations have been rapid and irregular, until in 1938 it was quite on the other side from its position in 1911, or at longitude 152° having again passed 0° in both 1919 and 1927. Another formation known as the *south tropical disturbance* was discovered in 1901; this is situated in the south temperate zone. From being a dark mass on the southern edge of the equatorial belt, it expanded to over 180° in length, showing considerable detail. Its rotation period being $9^h 55^m 19.5^s$, it overtakes the red spot about every two years, passing at a velocity of 16 miles per hour. While passing, for some unknown reason, the disturbance is accelerated and it drags the red spot bodily in the direction of its motion for some distance, after which the spot falls dark. Both disappeared in 1919 and again in 1926. Another curious phenomenon is the apparent repulsion on neighboring matter which is exercised by the spot, so that it seems to form a bay in the edge of the neighboring belt. Rupert Wildt concludes that, as the red spot has now been under continuous observation for over 80 years, it can hardly be otherwise than of a solid nature, as any liquid would tend to spread out over surrounding regions. If it were floating in the atmosphere freely, it must consist of some extremely light solid only. If it were dragged over solid ground, the momentum, necessary to be transferred from the surrounding fluid to cause the body to move, would be great and might not be afforded by known conditions. Obviously the nature and behavior of the red spot are very mysterious.

The spectrum of Jupiter has long been known to contain heavy absorption bands, the constitution of which was unknown. In 1932, Wildt proved that they were largely caused by methane and ammonia. This was fully confirmed in 1933 by T. Dunham. The larger part of the ammonia must be liquified due to the low temperature. The critical "velocity or escape" for Jupiter is 5.32 times greater than for the Earth, hence it might be expected to retain an abundance of the lightest gases, hydrogen and helium. That hydrogen compounds should be formed is thus to be expected. Dr. Harold Jeffreys has proved theoretically that the superficial matter of the giant planets, of which Jupiter is largest, must be some extremely light substance. Wildt discusses whether such planets can have extended atmospheres occupying a considerable part of their volume, because at relatively small depths the atmospheres under their own weight would reach densities of the order of magnitude of those of the solidified common gases like molecular hydrogen, helium, ammonia, and methane. If the

atmosphere is isothermal, solidification of the common permanent gases under their own weight would occur at depths where the pressure would be from 10^4 to 10^6 atmospheres. This should be about 600 miles. Lower down, the compressibility would approach that of ordinary liquids, so the general behavior would be more like our ocean than our atmosphere. Assuming that Jupiter is an isothermal body, Wildt proposes a model as follows: a dense rocky metallic core C radius 19,000 miles; a layer of ice B, thickness 17,000 miles; surmounted by a layer A of highly compressed, condensed gases, mainly solid hydrogen, thickness 8,000 miles. He assumes that the core contains 20 per cent of oxygen. At the temperature of the outer layers, -140° C approximately, methane is still gaseous but ammonia is frozen. The clouds are, therefore, probably composed largely of ammonia crystals. The ice layer would have come from water due to the combination of hydrogen and oxygen, when the planet was still hot. Eventually, on cooling, the ice would form.

There seems general agreement that the central core of Jupiter will be composed largely of iron-nickel, as indeed is presumed for all planets, but theories on the thickness and composition of the upper layers differ very greatly. Even recently, reasons have been advanced to support the theory that below the atmospheric layers the planet has a solid surface, perhaps with strong volcanic actions therefrom. This might presuppose that such a surface was relatively warm, from internal heat, due in part to radioactivity. Photometric work by G. Link on Jupiter's atmosphere, through studying the effect of its shadow on the satellites, indicates that the planet is surrounded by an absorbing layer whose upper surface is at 20 per cent of the radius. This stratum would not be homogeneous; the maximum of density would be at an altitude of about one tenth of the radius. This value agrees quite well with the thickness of layer A in Wildt's model. That life could exist on Jupiter seems utterly impossible, nor could it exist on any of its satellites.

Satellites.—Jupiter has the most numerous family of satellites of any planet, 11 now being known. Others may be found in the future, only any that remain undiscovered must be very small bodies indeed. The four large moons of Jupiter were the first bodies to be discovered by use of the telescope, having been found by Galileo in 1610. Their discovery, incidentally, produced great consternation among those who firmly believed that the solar system must consist of seven bodies only. But for being so close to Jupiter, they would be readily visible on a clear night without optical aid. Their angular diameters, as seen from the Earth at mean distance, are $1''.00$, $0''.88$, $1''.41$, and $1''.36$ respectively, which averaged with those given by eclipses correspond to 2,350, 2,150, 3,300, and 3,200 miles. They move almost in the plane of the planet's equator, the first three furnishing solar, and undergoing lunar, eclipses at every revolution; the fourth somewhat less often. (See ECLIPSE.) Their orbits are almost perfect circles, and the relative positions of the first three follow a remarkable law, found by Laplace, $L_1 + 2L_2 - 3L_3 = 180^\circ$, where L_1 , L_2 , L_3 represent their longitudes. Their distances from Jupiter are 262,100; 417,100; 664,900; 1,170,000 miles; and their approximate periods are $1^d 18^h 28^m$, $3^d 13^h 14^m$, $7^d 3^h 43^m$, $16^d 16^h 32^m$, in "

ward. Their masses in terms of the Moon are 0.09, 0.65, 2.10, and 0.58; while their densities in terms of water are 2.9, 2.9, 2.2, and 0.6. With the largest telescopes, faint markings have been detected on their disks, despite their small angular diameters, and there is sound reason to believe that, like our Moon, they keep their same faces always towards their primary. From the data given, Satellites I and II are about the size and density of our Moon; III and IV considerably larger. The very low density of IV furnishes a most difficult problem, for even were it made of ice, the density would be 1.0 not 0.6—that it could not be solid seems quite impossible. Satellite V was discovered visually in 1892 by Edward

Barnard with the Lick 36-inch refractor. It takes the planet in just half a day, in the same plane as does I, but at a distance of only 112,700 miles. It is probably not over 100 miles in diameter and a most difficult object to observe. Nos. I and VII were discovered by Charles D. Perrine, also at Lick Observatory, by photography with the Crossley reflector in 1904 and 1905. They are very different from those already discussed, being about 100 miles and 30 miles in diameter respectively, periods 251 and 260 days, and mean distances of just over 7 million miles. Their orbit planes are highly inclined to that of the planet, being 29° and 28° , with the large eccentricities of 0.155 and 0.207. In this same group should be classed Satellite X, discovered by Seth

Nicholson in 1938 at Mt. Wilson Observatory. This tiny body is some 10 miles in diameter, its period 254 days, and its distance and orbit much like VI and VII. These three have direct motions, as do the first five.

No. VIII was discovered by P. J. Melotte at Greenwich in 1908. It is about 20 miles in diameter, has a period of 739 days, a mean distance of 4,600,000 miles, eccentricity of 0.378, and an inclination of 148° (in 1910). This shows that it moves in a clockwise direction, opposite to the light so far discussed. In 1914 at Mt. Lick, Nicholson discovered Satellite IX and in 1938 at Mt. Wilson, XI. These two, with VIII, seem to form another group. For IX we have: diameter 15 miles, period 758 days, $a=14,740,000$ miles, $e=0.28$, inclination of orbit 157° . For XI, diameter 10 miles, $a=14,000,000$, eccentricity $=0.207$, inclination of orbit 163° . Both move clockwise, which infers a different evolution from the other eight which move direct. As yet XI has been studied so short a time to give as full particulars as for its two companions, but they furnish most serious difficulties in calculating their orbits. When on the side of Jupiter nearest the Sun, the perturbations of the latter are so serious that the two satellites never follow even approximately the same orbits for successive revolutions. Doubtless exactly the same will turn out to be true for XI. As an example, from 1908 to 1916, the period of VIII lengthened from 713 to 768 days, its orbit's inclination changed from 152° to 146° , etc. The orbits can only be calculated by mechanical quadratures, and no long-range predictions of future positions can be anything but roughly true.

The hypothesis has been discussed that the outer six satellites may be captured asteroids, which, on venturing too near Jupiter, from just the right direction and under just the right conditions, may have been forced to leave their orbits about the Sun and join this satellite family. The mathematical difficulties of the prob-

lem are great, and a fully satisfactory solution has not been made as yet, though it is believed that the direct-moving small satellites cannot now be lost by a reverse process. The same conclusion, so far as the future is concerned, is probably true for the outer three. But as no asteroid is known to move in a clockwise direction, while half of the comets do, the further hypothesis might be advanced that the outer three are really captured nuclei of comets which have lost all their coma material. If this should turn out to be tenable, the great difficulty of opposite direction of motion—and evolution—would be removed. Nothing has been said in this connection about the inner five. That is because, whatever origin is eventually decided upon as correct from the evolutionary standpoint for the normal satellite, this will fully fit their cases.

The satellites of Jupiter, through observations of their eclipses, gave the first proof that light moves with a finite velocity, even if a very great one. This was done by the Danish astronomer Ole Römer (Roemer) in 1675, though his suggested explanation was only accepted after James Bradley in 1725 had discovered the aberration of light. The principle involved is as follows: Jupiter's orbit has a major semiaxis of 5.2 astronomical units and hence is far larger than the Earth's which is within. Therefore, in the course of the year, when Earth and Jupiter are on the same side of the Sun, the Earth is only 4.2 a.u. distant from Jupiter but in some 6+ months later, it will be 6.2 a.u. distant, when on the opposite side of the Sun from Jupiter. Call the first point A, the second point B. Then from A to B our distance from Jupiter is increasing day by day, from B to A, decreasing. But a Galilean satellite revolves always in the same period about the planet, so eclipses actually take place at equally spaced intervals. Hence if light has a finite velocity, as we go from A towards B the intervals from one eclipse to the next should lengthen, as light has each time a longer path to travel to reach us, but the contrary is true from B to A. If light had an infinite velocity, the intervals, either as we approached or receded from Jupiter, would be the same. The greatest changes, of course, occur in the two positions when the angle JES is 90° , which is not far from half way from A to B. By his observations, Roemer was able to prove the intervals differed as described, thus proving light's finite velocity. See also ASTRONOMY.

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JUPITER CAPITOLINUS, Temple of, the national shrine of ancient Rome. Situated on the Capitol, it was dedicated to Jupiter Optimus Maximus, Juno and Minerva. It is said to have been built by Tarquinius Superbus and completed in 509 B.C. It was built against the side of Monte Caprino, the southern summit of the Capitoline Hill and was supposed to stand on sacred ground. On account of its

position it could be approached from only one side. It was destroyed by fire in 83 B.C. and was rebuilt by Lucius Cornelius Sulla. Subsequently it was rebuilt or restored by Augustus (9 B.C.), Vespasian (74 A.D.), and Domitian (82 A.D.). It was ruined by the Vandals in 455 A.D.

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JURA, jōōr'ā, Fr. zhū-rā', department, France, located on the eastern frontier, bordering Switzerland. Its area of 1,952 square miles is generally rugged, over two thirds being covered by the Jura (q.v.) mountain range which in places rises more than 5,000 feet. On the west are lower, level regions. Grains and poultry are important in the agriculture of the west; wines are produced along the western slopes of the Jura Mountains; and there is extensive cattle breeding and cheese making. Lumbering, stone quarrying, salt mining, and various artisan manufactures, including clockmaking and gem cutting, are carried on. The chief streams are the Ain, Brenne, Loue, and Doubs. The principal towns are Lons-le-Saunier (the capital), Dôle, St.-Claude, and Morez. Pop. (1946) 216,386.

JURA or **JURA MOUNTAINS**, a range of the Alpine mountain system, occupying parts of France and Switzerland and forming a natural barrier along the Franco-Swiss border. It extends generally southwest to northeast, in a number of parallel ridges, through the French departments of Ain, Jura, and Doubs and the Swiss cantons of Vaud, Neuchâtel, Bern, Solothurn, and Basel. The greatest length is about 160 miles, from Belley, France, to the Rhine at Basel, Switzerland; the greatest breadth is about 40 miles. The principal geological formation of the Jura is a fossiliferous limestone for which the Jurassic period of the Mesozoic geological era was named. The highest peaks of the Jura are in France (Crêt de la Neige, 5,652 feet, and Mont Reculet, 5,643 feet). The Col de la Faucille, about 50 miles northwest of Mont Blanc, and the Pontarlier gap, about 30 miles south of Besançon, are the principal passes.

JURASSIC, jōō-rās'ik, in geology, the second period of the Mesozoic era, following the Triassic and preceding the Cretaceous, and the system of rocks formed during about 30 million years some 150 million years ago. The Jurassic was named for one of its characteristic formations, a highly fossiliferous limestone found in the Jura Mountains of France and Switzerland. It was a period in which dinosaurs (q.v.) flourished and the earliest bird (*Archaeopteryx*, q. v.) was evolved.

Exposures of Jurassic formations in England yielded fossils that enabled William Smith in 1795 to conclude that "each stratum contained organized fossils peculiar to itself," a discovery that facilitated the dating of strata. Ami Boué placed the rocks of the period in proper sequence in 1829, and Alexandre Brongniart named them Jurassic in the same year. The prevalence, during the period, of ammonites—flat-coiled cephalopods having shells with complexly fluted partitions that permit confident recognition of similarities and differences—enabled paleontologists to divide the system into more than 100 fossil zones. Ammonites evolved rapidly and, being free floating, spread readily; consequently, geo-

logical sequences in the Jurassic system are more easily compared in time over long distances than are the sequences in any other system.

The Jurassic is commonly divided into lower, middle, and upper phases. Several stages are recognized in the Lower Jurassic or Lias; in the Middle Jurassic, two stages, the Bajocian and Bathonian, are recognized; in the Upper Jurassic, the Callovian, Oxfordian, Kimmeridgian, and Portlandian are generally distinguished.

In North America, marine rocks are exposed only in the western parts of the United States and Canada, and in Mexico; some are also exposed in Cuba. However, along the Gulf of Mexico deep wells penetrate a seaward-thickening wedge that pinches out about 200 miles inland, between southern Arkansas and the Rio Grande. There are oilfields at the northeast, and the section has a 1,000-foot deposit of salt, thought to be the source of the domes rising through overlying rocks (see TERTIARY). In Mexico, early Jurassic rocks occur in the southern states; but upper Jurassic rocks lie on Paleozoic in the State of Coahuila.

During the Lower Jurassic, the interior of North America was land as far west as California, Nevada, and western Alberta; but streams and lakes deposited some sediments, and winds piled up dunes, such as those that must have formed the Navajo sandstone in Zion National Park, Utah. During the Middle and Upper Jurassic, marine waters spread eastward into Colorado, the Dakotas, and western Saskatchewan, a few hundred feet of deposits passing eastward into stream-laid beds. Middle and Upper Jurassic deposits reach thicknesses of a mile in Utah and the Canadian Rocky Mountains. Several miles of sediments and lavas formed in volcanism were lacking in this interior region, prevalent in a belt within the Pacific Coast. Several miles of sediments and lavas formed in subsiding troughs, geosynclines, that extended interruptedly through southern Alaska, western British Columbia and the western states from the Pacific Ocean into western Nevada; there were associated lands, some with active volcanoes, some in the present Pacific area. The Nevadan Disturbance, a period of intense folding of the earth's crust, raised mountains dividing this broad area. At the same time there occurred intrusions of granitic rocks, including the granodiorite forming the walls of Yosemite Valley. Seas withdrew, eventually, to a geosyncline along the Pacific coast; while, toward the interior, streams laid sediments that have yielded fossils of great dinosaurs, particularly in Wyoming. See also GEOLOGY; MESOZOIC ERAS.

MARSHALL KAY

JUREL, hōō-rēl', or **XUREL**, any of several species of edible fishes found in warm seas belonging to the family Carangidae (q.v.). The best-known is the hardtail (*Caranx crysos*), "yellow mackerel," also called the hard-tail jack, or runner, which occurs in the Atlantic from Brazil to Cape Cod and sometimes in Nova Scotia. It is also found in the eastern Pacific. It has a slender, elongate body, bluish above and silvery below, is short-headed and short-snouted and reaches a length of 20 inches and a weight of four pounds. It feeds on small fishes and shrimp.

JURI, zhōō-rē', a once-powerful Indian tribe belonging to the Arawakan family. The

are closely related in customs, racial appearance, traits and language to the *Passé*. Their territory once extended from the Lower Putumayo and Japurá into the northern tributaries of the Amazon. They are experts in the use of the canoe and were at one time very much feared by neighboring tribes on account of their deadly blowpipes. Their extensive dwellings are constructed of poles thatched with palm or other leaves, much like those in use everywhere throughout tropical America.

JURIEN DE LA GRAVIERE, zhū'rě'ān' de lā gra'vė'ār', Jean Pierre Edmond, French writer and soldier: b. Brest, 1812; d. 1892. He began his active life in the sea service and became rear-admiral in 1855. He had charge of the French naval interests in the expedition to Mexico in 1861. The following year he arranged the Treaty of La Soledad with the other sharets in the expedition, Spain and England. On his return to Europe he was put in command of the Mediterranean fleet (1868-70). He prepared all the plans for the escape of the empress in 1870. The following year he became director of charts in the Naval Office and in 1888 he was made a member of the Academy on account of his literary and other services to his country. Among his published works, which are all on naval subjects, are 'Guerres maritimes sous la République et sous l'Empire' (1847); 'Voyage en Chine pendant les années 1847-50' (1854); 'Les Campagnes d'Alexandre' (1883-84); 'Les gloires maritimes de la France' (1888); 'L'Amiral Roussin' (1889); 'Les Anglais et les Hollandais dans les mers polaires et dans les mers des Indes' (1890); 'Le siège de la Rochelle' (1891); 'La flotille de l'Euphrate' (1892); 'Les Gucux de mers' (1892).

JURIEUX, zhū're'ē', Pierre, French writer and theologian: b. 1637; d. 1713. Although a voluminous writer and bitter controversialist in behalf of Protestantism, he is remembered now for two works, 'Histoire du Calvinisme et celle du Papisme' (1682) and 'Histoire critique des dogmes et des cultes' (1704).

JURISCONSULT (French *jurisconsulte*, Latin, *jurisconsultus*, one skilled in the law), one who gives opinion on cases of law; one learned in the law; and, specifically, a master of civil law. During the Republican period of Rome the *jurisconsults*, who were almost always men of independent means and good family, trained in the law, gave their legal advice free of charge as a means of adding to their friends and influence to aid them in securing some elective office. Under the Empire certain men were given the right to respond (*jus respondendi*) by the emperor. As these were among the most noted of Roman jurists, their decisions were ordered to be followed by the judges. Before long the jurists thus honored were almost all selected from the members of the Imperial Auditor; and as this was the highest court of appeal there arose the custom of making the lower courts follow the decisions of the higher; a custom now universally followed. The famous digest of Justinian was compiled from the writings of the imperial jurists, who had left, in a digested form, the case law of the latter part of the Republic and the first part of the Empire. Throughout the Latin countries the term *juris-*

consult is used in the sense of jurist. See CIVIL LAW; JURISPRUDENCE; ATTORNEY AT LAW. Consult Muirhead, 'Historical Introduction to the Private Law of Rome.'

JURISDICTION includes both the right to exercise authority (*imperium*) and the field within which such authority may properly be exercised (*dominium*), whether its limits be territorial or personal. In early law, jurisdiction in the second sense was rather personal than territorial, and the same must be true wherever distinct races occupy together the same territory. While the tendency is to gradually work out a system of law applicable to all inhabitants, the state must of necessity recognize the fact that its subjects of different races will consent to be governed only by separate and often contrasting systems. Such is the case, for example, in British India to-day. So, too, jurisdiction was divided according to the subject matter, and the Church secured and jealously maintained authority over all matters of conscience, and managed to extend the jurisdiction of the Ecclesiastical Courts to very important questions, including marriage, legitimacy, wills and administrations, and to actions affecting the personal rights of the clergy.

The Constitution of the United States discriminates clearly and sharply between the executive, the legislative and the judicial powers of government, and its provision that the Constitution and the laws of the United States made in pursuance thereof shall be the supreme law of the land, taken in connection with the provision that the judicial power shall extend to all cases arising under the Constitution, forms the basis of a jurisdiction which, at least in the extent to which it has been carried, is without precedent outside of the United States. It is by virtue of these provisions that the Federal courts exercise the power of declaring void acts of Congress or of the State legislatures which conflict with the Constitution of the United States. To this power and the energy and ability of the Supreme Court in its exercise are due the vigor and efficiency of the Federal government and the establishment of its supremacy within the field of its jurisdiction. This feature has been imitated in the several State constitutions with results unquestionably beneficial as a whole, and so important that the courts have come to be spoken of as the guardians of the constitution. But one result not so fortunate is that the legislative branch of the government, though in theory as much bound by constitutional restrictions as though there were no authority to which an appeal against the validity of its enactments can be taken, is manifesting a disposition to disregard them altogether, leaving the whole question of constitutionality to the courts. As our system of government provides no method by which the question can be raised, except in the course of a litigation in which one party relies upon the right conferred by such a statute, there are possibly many unconstitutional acts in force in the various States. A more important consideration is that a disposition on the part of the judiciary to interfere with matters properly legislative may thus be created, and lead to forced constructions by which any law which the judges believe to be had is held obnoxious to the Constitution — resulting in illogical and

inconsistent decisions and a weakening of the authority of the courts.

The Constitution provides that the judicial power of the United States shall extend to controversies "between citizens of different States." The purpose was to open the way for legislation which would provide a tribunal in which the right of a citizen of any State to pursue his legal remedies could not be denied; probably, too, to afford him a tribunal less likely to be affected by local prejudice than a State tribunal of first instance, probably a County Court. It is not contended that anything further was designed, but upon this clause depends the most extensive and, except for the provision as to constitutional interpretation which we have just considered, the most important body of Federal decisions. The tendency of the Supreme Court was at first to hold that the Federal court should administer the law of the State in which it was sitting and that while a citizen of Pennsylvania, for example, having a claim against a citizen of New York, might, if he saw fit, bring his action in the Federal, rather than in the State, court—the law to be applied would be the law of the State of New York. But this rule has been departed from in the later decisions, and while the Federal courts still hold themselves bound to follow the interpretation put upon State statutes by the State courts (unless, of course such statutes are attacked as in conflict with the Constitution of the United States), they hold themselves free to disregard the interpretation of the common law by the State courts, and the system of law built up within the State by the adjudications of its courts, and to adopt their own interpretation, and follow their own judgment. That the Federal courts are popular is shown by the fact that the most important litigation, estimated on the basis of the amount at stake is, where possible, usually brought before them, notably proceedings against corporations and especially the foreclosure of corporation mortgages where it is quite common for the trustee for the bondholders to be a corporation or individual of another State, or where a committee of bondholders, or even a single bondholder, residing outside the State which is the domicile of the debtor corporation, is the plaintiff. This is sufficient to give jurisdiction to the Federal court.

We have therefore a most interesting condition of concurrent jurisdictions applying to every inhabitant of the United States. The Federal courts are courts of limited jurisdiction—limited to authority expressly conferred by the Constitution and laws of the United States, but once jurisdiction is established, unlimited in the scope of its exercise. Congress has prescribed that the jurisdiction shall only exist when the matter in controversy has a pecuniary value exceeding \$2,000, and that actions shall be brought only in the district within which the plaintiff or the defendant resides and has made provision for the removal from the State courts of causes which might originally have been brought in the Federal courts. Some of the States have attempted to prevent this increasing jurisdiction of the Federal courts; for example, by the passage of acts providing as a condition of a license to a foreign corporation to do business within the State, that such cor-

poration, if sued, would not remove the cause into the Federal court.

The field in which a State of the American Union may exercise its political or judicial authority is circumscribed by its geographical boundaries. The process of its courts can reach only persons who reside in, or voluntarily come into, their jurisdictional limits, or property which is located in, or is brought into, the territory of the State. An action for debt against a non-resident can be conducted only as a proceeding *in rem* against his property found in the State and held by writ of attachment; a judgment *in personam* against a non-resident defendant, who had not been served with initiatory process within the State or voluntarily entered an appearance, would be a nullity. A suit for divorce is a proceeding *in rem*, the *res* being the status of the parties; and, when brought in the proper matrimonial domicile, substituted service of the summons and bill outside the State will give the court jurisdiction. Criminals, who have become fugitives from justice, are brought into the State from which they have fled on requisition to the governor of the State in which they have taken refuge.

National governments are similarly restricted, though their jurisdiction has wider limits. These may extend far beyond their national frontiers to lands and peoples over which the governments hold complete sovereignty or even a mere suzerainty or protectorate. Or the *dominium* of a government may extend to persons of its own nationality living abroad, over whom, or in whose behalf, it claims extra-territorial rights. The extra-territorial jurisdiction formerly exercised by the nations of European race in the non-Christian and imperfectly organized polities of the Orient and the Far East has been greatly narrowed. It was abolished in Japan by treaties; it was declared no longer existent in Turkey by the law suppressing the capitularies and without regard for treaties. In Persia, China and a few other countries it is still the rule that nationals of European and American states can be tried for crime only in the consular courts of their own nationality; likewise these courts have exclusive jurisdiction in civil actions in which their nationals are defendants, or which involve their civil status. Controversies between natives and extraterritorialized foreigners are sometimes triable in mixed courts. The most important of these was the one long maintained in Egypt, and to which the principal nations, including the United States, each appointed a judge. There is a regularly organized United States District Court at Shanghai, forming part of the Federal judiciary system.

Some national governments claim permanent *dominium* over their nationals wherever they go and contest the jurisdiction even of the countries to which their former subjects have emigrated, and in which they have become naturalized. The Italian government, for instance, declined several years ago to surrender to the American authorities a former Italian subject, who had fled to Italy to escape trial in the United States for a crime alleged to have been committed by him in the latter country: the ground of refusal being that an Italian by birth or descent was answerable to courts of Italy alone for his delicts. His liability was not di-

minished by or altered by long absence from Italy, or by a voluntary change of civic status or allegiance, nor even by the accident of having been born in another country. The locus of the crime was considered quite immaterial. To prove its consistency the Italian government about the same time declined to accept jurisdiction in a case involving a young American, the body of whose wife had been put into a trunk and thrown into Lake Como. The nativity of the offender, not the place of the offense, fixed the jurisdiction; let American courts try Americans and the Italian courts administer correction to Italians. This is the American and English rule of jurisdiction turned upside down and inside out. The Italian government receded somewhat from its position, but from considerations of comity, and without abandonment of its principles. The rule of *dominium in personam* also permits the French and other Continental European courts to take criminal jurisdiction over persons who are not, and never were, within the orbit of their territorial authority, and to try and convict such persons in their absence — which is the direct opposite of one of the fundamental principles of the common law.

STEPHEN PFEIL.

JURISPRUDENCE. The use of this term as an equivalent for "Law" is confusing and apt to conceal its real import. "Medical Jurisprudence," so called, is not even law, but a compilation of facts, taken from the science of medicine, which may be useful in the determination of questions of law. The title "Equity Jurisprudence" on a book generally indicates that it is a treatise on pleadings and procedure in the Court of Chancery, and when one speaks of American jurisprudence what is usually meant is the administration and practice of the law in America, specifically in the United States. These and many other similar uses of the term are incorrect. Jurisprudence is the science which concerns itself with the discovery and presentation in a systematic manner of the relatively few and simple ideas underlying the infinite variety of legal rules. In making its observations and deductions jurisprudence recognizes no limits of time and place; a rule stated in, or inferred from, a section of the Code of Hammurabi (B.C. 2340) is within its sphere of inquiry just as much as one declared in an act passed by Congress or a State legislature during the present year. Nor does the science take cognizance of the different classes of people whose wants were satisfied by the invention of a legal rule, nor the circumstances under which it was invented. The general rules of *hypothec* are applicable alike to a bottomry bond, a mortgage on land or a pledge of chattels; the general rules of possession, ownership and contract are applicable alike to mariners, landlords or pawnbrokers. Jurisprudence should not be confounded with the history of laws or of the law; a science which reduces legal phenomena to order and coherence is obviously something quite different from an historic exposition of the law of one or of many countries, or even the juxtaposition for the purpose of comparison of the rules embodied in various systems of law. The comparative study of laws engrossed the attention of Roman jurists, and in the *jus gentium* they put together the rules which they found to be common to a

great number of legal systems. Their ideal was a universal code, from which all systems were imagined to be derivable, or toward which they were supposed to tend. It was in their efforts to realize this ideal that the Romans made a discovery of far greater importance than that of a merely material unity in the laws of many nations. There was disclosed to them a formal unity which enabled them to rubricate the essential principles of their ideal or "Natural law" in spite of the heterogeneous origin of their material and the differences of the methods of grouping the topics adopted in the various legal systems. In a word, the Roman jurists invented the science of jurisprudence, which differs from comparative law as much as it differs from legal history. In making this invention the Romans did a service for law, parallel to the service done by the Alexandrian Greeks for language when they invented grammar. The difference between comparative law and our science is well stated by Dr. T. E. Holland in his 'Elements of Jurisprudence' by the following illustrations: "It is the office of comparative law to ascertain what have been at different times and in different communities the periods of prescription or the requisites of a good marriage; it is for jurisprudence to elucidate the meaning of prescription in its relation to ownership and to actions at law, or to explain the legal aspects of a marriage and its connections with property and the family." A science of jurisprudence, to be sure, might be deduced from the observation of the laws of a single nation, just as the Alexandrian Greeks deduced a science of grammar from Greek, the only language they familiarly knew — and just as the general formulæ of grammar thus derived are applicable to all languages, so would a formal science of jurisprudence, though deduced from but one system of laws, be of universal application. While comparative law and legal history are not prerequisites, nevertheless they are invaluable aids toward the formulation of the science. Comparison of the laws enforced in the same country at different times, or of similar though not identical laws of various countries, greatly improves the possibility of separating the essential elements of the science from their historical accidents, and of discovering the relative importance of human wants by the universality (or the reverse) of legal provisions respecting these wants. The means whereby humanity has satisfied its wants are as infinite in number as the wants themselves, but humanity has not always, nor often, had clear conceptions of the ends to be attained by the means employed. Legal history, therefore, is a vast accumulation of complex and perverse facts. Jurisprudence obtains unity out of this complexity by observing the human wants for the satisfaction of which laws have been invented, and the modes in which such wants have been actually satisfied; by collating and digesting the facts observed, with no regard for their historical or geographical associations, and arranging the formal rules deduced from this matter in categories, according to logical principles derived from other practical sciences.

A formal science must necessarily begin with an understanding of the character of the phenomena about which it rationalizes; it can have no coherence if the thing with which it is concerned is given a name with complex and

shifting meanings. A discussion of the great variety of ideas expressed by the word "Law" is deferred to another part of this work. (See LAW). It must suffice here to define "Positive Law," with which alone the science of jurisprudence is concerned, as "a rule of external human action, recognized and enforced by a sovereign political authority." This definition is narrow enough not only to exclude the conceptions expressed by such terms as the "laws of nature" where the word "law" is used merely figuratively, but also to differentiate positive law from moral law, ethics, etiquette or the "code of honor." It is broad enough, on the other hand, to include rules established by custom when they have obtained recognition from the State, and regulations made by municipalities, corporations or other agencies, to which the sovereign political power has delegated some part of its authority. The action regulated must be a human action and it must be external; i.e., it must affect a thing or a person other than him who does the act. A thought is not an act until it finds expression in words or deeds. An omission, however, may be an act in law. Jurisprudence naturally falls into two divisions, public and private. The latter comprises the rationality of legal rules governing the relations of individuals among themselves. Public jurisprudence is that division of the science which is concerned with the rationale of the legal rules which govern the relations between individuals and the State. A third division of the science is sometimes made to include the rules governing the interrelation of States. Inasmuch, however, as there is no supernatural authority to compel observance of these rules by mutually independent sovereignties, international law is lacking of the fundamental characteristic of positive law. It, therefore, fits only imperfectly into the scheme of our science. "The most obvious characteristic of the law is that it is coercive; it was invented because of transgressions. Even when it operates in favor of the legitimate action of individuals, the law does so by restraining interference with such action." This carries us forward to the subject of legal rights, the creation and protection of which are the primary objects of law. The elements of a right are, the person entitled, the act or omission, the object and the person obligated. A right has been defined by Holland as "one man's capacity of influencing the acts of another, not by his own strength, but by means of the opinion or force of society. When one is said to have a right to anything, or over something, or the right to be treated in a certain way, what is meant is that public opinion would regard with approbation, or acquiescence, his doing the act or his use of the thing, and would reprobate the conduct of any person who should prevent his doing the act or using the thing, or who should fail to treat him in the manner to which he is believed to be entitled." A right thus sanctioned is a moral right. When the capacity residing in one man to control a thing or the action of another is exercised with the assent and assistance, if need be, of the State, it becomes a legal right—and this irrespective of the moral sanction of the community. The distinction between public and private rights lies upon the surface. The State has the right not to be conspired against or not

to have its peace disturbed. An act of treason is a violation of a public right residing in the State, and the State intervenes not only to punish the traitor, but to protect itself—for the State is to be regarded as a "person" by analogy, with rights that need to be safeguarded by itself as well as it safeguards the rights of private persons. Some trespasses are violative of a private as well as of a public right. A libel or an assault, for instance, infringes upon private rights and, also, upon the public right of the State not to be disturbed by acts constituting, or tending toward, breaches of the peace. All legal rights fall into one of the two categories, public or private. The division of the science of jurisprudence in two corresponding departments is, therefore, logically consistent. It commends itself also by the convenience of an arrangement whereby constitutional, ecclesiastical, criminal and administrative law, on the one hand, and the law of contracts, property, succession and torts, on the other hand, fall into groups, to one or the other of which all legal topics may be referred. The classification of rights under the heads "Rights of Persons" and "Rights of Things," is logically imperfect as well as inconvenient in practice. The right to receive rent does not depend upon some distinctive characteristic of landlords as a class; nor would this right be affected because the landlord should happen to be following an occupation, say that of a pawnbroker, whose business is conducted under some special kind of administrative regulations. These regulations of the pawnbroking business in no way increase or impair the right of a pawnbroker, as landlord, to rent from a tenant. If a landlord should be an infant, however, a whole set of legal disabilities would come into play, affecting and modifying the antecedent right of this specific landlord to receive rent or the remedial right of the infant to enforce payment thereof. These modifying causes affecting the relations between an infant landlord and his tenant, are entirely unconnected with the general rules of possession, ownership and contract, which govern the relations between landlord and tenant—and when both parties concerned are normal the "personal dimensions" of a right need not be considered at all. In most cases they could be utterly disregarded, for the conditions of abnormality in natural persons are not numerous. They are lunacy, infancy, coverture, alienage, outlawry and a very few others. By abstracting the rubric "rights of persons," which means nothing more than the law relating to varying legal capacities, and relegating this topic to a separate head—such as "the law of abnormal personality"—the definition and consideration of legal rights would be greatly simplified.

A legal right is either antecedent or remedial. An antecedent right is an exceptional advantage enjoyed by the person clothed with it. The right of an heir to a house and land devised to him, or the right of a merchant to goods purchased by him, are antecedent rights; and they are exclusive, because they are enjoyed by nobody else. Antecedent rights may be *in rem*, meaning that they are available against the whole world, as in the cases just mentioned; or they may be *in personam*, meaning that they are available only against a par-

ticular person. The right of ownership is a right *in rem*, it is available against the whole world; the right of a landlord to rent is a right *in personam*, for it is available only against his tenant. A remedial right arises when an antecedent right is violated. It is available only *in personam*, that is to say, against the person by whose infringement of an antecedent right the remedial right comes into being. Public as well as private rights may be either antecedent or remedial. The right of the State not to be betrayed is antecedent and is a right *in rem* because it is available against the whole world. When a traitor violates this antecedent right a remedial right *in personam*, available against the offender, is created. Antecedent private rights *in rem*, available against the entire world by those entitled to the enjoyment thereof, are: (1) The right to personal safety and freedom; (2) to the society and control of one's family and dependents; (3) to reputation; (4) to advantages open to the community generally, such as the free exercise of one's calling; (5) to possession and ownership; (6) to immunity from damage by fraud. Many of these, of course, become the objects of particular legal intervention only when they are infringed, as the right to personal safety is infringed by a menace, an assault or an act of negligence. Antecedent rights when not infringed, or when they are not "in motion"—meaning in process of creation, devolution or extinction—are said to be "at rest." When at rest such rights are, nevertheless, under the protection of the State through its powers of police. The State not merely punishes stealing, it prevents it. Every right has relation to some thing, and the object of a right may be tangible or intangible. The "bubble, reputation," is an intangible thing, to the enjoyment of which a man has a right, but which he cannot reduce to possession. The rights of possession and ownership, generally speaking, are extensions of the power of a person over tangible physical objects. Possession and ownership are not identical. The Roman jurists even maintained that the custody of a thing by a bailee did not constitute possession, and that the abstraction of the thing from his custody did not give the bailee any remedial right against the abstractor—no more than a servant could claim legal recovery of his master's goods left in his care and stolen by a thief. The modern English law holds just the opposite, as also did the ancient Teutonic law. "Violations of possession give rights of action independently of rights of property. Such rights of action are extensions of the protection which the law throws around the person." (13 Meeson and Wellsby, 581). The Salic law gave the person from whose custody cattle had been taken the sole right of recovery, exclusive even of the owner. To be in possession of a thing one must have it sufficiently in one's control to exclude others; but possession may be symbolical. By entry on any part of an estate an heir will be assumed to be in possession of the whole, and one who buys goods in storage may be put into possession by receiving the keys of the warehouse wherein they are stored, or by the transfer to himself of a warehouse receipt. The essentials of possession are the will and the power to possess and the exercise of both.

"Neither the mere wish to catch a bird out of reach, nor the mere power to take a horse standing unguarded will suffice to put one in possession of the bird or the horse." The will to possess, or *animus domini*, rather than mere physical possession, is "nine points of the law." It is manifested in the largest and the smallest human relations—by a nation, which fights the world to keep a province, down to the individual, who defends property in his hands in the honest belief that he owns it, and the thief, who knows perfectly well he does not. The incidents of ownership are the right to possess, the right to enjoy and the right to dispose of property. The right to possess is lost or suspended by letting, lending, pledging or mortgaging property. The right to enjoy includes the right to the increase—growing timber, accretions of alluvion, the young of cattle, etc. The right of ownership is limited by the State through taxation, the prohibition of obnoxious use, or by taking in virtue of eminent domain; or it may be limited by individuals, as coparceners, neighbors having rights of way, rights of access to water or other easements, or right of support from adjacent soil. The right of disposal includes the right to destroy what one owns. A few kinds of things other than physical may be objects of ownership—patents and copyrights, for instance. Property is either movable or immovable—the distinction between real and personal is not quite the same, though nearly so. Property may be lawfully acquired by purchase, succession or prescription. Gift is a mode of succession. The right of ownership is terminated by the death of the owner. A dead man is not a legal person.

In the foregoing is shown the method whereby scientific jurisprudence prepares its material by formulating the myriads of juristic facts in a relatively small number of statements, capable of orderly arrangements within the compass of a single volume of moderate size. The nomenclature of the science, though an important element thereof, has not always been adhered to. It could have been adhered to strictly only at the sacrifice of popularity in treatment. Clarity seemed more desirable than profundity. It was possible to deal with only one class of private rights, and antecedent rights *in rem*, more specifically rights of possession and ownership, were selected for illustration because they present the fewest difficulties. A very much larger class of private rights than the one discussed are the rights *in personam*. To this class belong all the rights conceded by contract and, though these really partake of the character of antecedent rights, they are never available *in rem* against the world, but always against specific individuals. Under the general title "rights *in personam*" are gathered also all other remedial rights, whether they arise from breaches of contract or out of what the Roman jurists call "obligations *ex delicto*," which our lawyers classify as the laws of torts. A further division of law must still be considered. The rules wherein are defined the rights, whether public or private, which the State will support or protect, constitute the "substantive law." The rules prescribing the modes of aiding or protecting either public or private rights are classed as "adjective law" or procedure. Ju-

dicial intervention may be either preventive, as by injunction, or redressive. Redressive intervention is by far the more frequent mode, and in respect to private rights the redress usually takes the form of indemnity or damages. In some cases, however, the remedy is more direct, as when a nuisance is ordered abated, or the specific performance of a contract is decreed, or a mortgagor is put in possession of the property mortgaged by summary process. Rights of action are extinguished by release, waiver or condonation; by bankruptcy of the person liable; by set-off; by merger, as in the case of the substitution of a covenant or a judgment note for a simple contract—the substantive right is not extinguished, but the right of action on the less solemn evidence of the debt or obligation would be merged. Estoppel by judgment for the defendant, and by prescription or limitation, are the remaining modes of extinguishing remedial rights. The death of the person of incidence, i.e., the plaintiff in an action for tort, not merely extinguishes the procedural remedy, but the right itself. To this there is an exception when death caused by negligence or other tortious act is the ground of action. In such case the right and the remedy pass to the executor or administrator. Remedial rights may be suspended without being lost—as, when an action is pending in a court of concurrent jurisdiction, another court will not proceed with a suit to enforce the same right. Finally there is a private, as well as a public, international law. The questions that arise in this department of the law are mainly jurisdictional. When parties are nationals of, or are domiciled in, different countries a suit may be brought in a court of the country where the plaintiff is domiciled; where the defendant is domiciled; where the object of the controversy is situated; where a marriage, a will or other agreement, whereby a right was created, was performed or made; in a court of the country where a contract was to produce results or of the country where the plaintiff chooses to bring his action. The courts of the situs of the object of a controversy (*forum rei*) have always assumed jurisdiction in such cases. Jurisdiction is declined by the English courts in suits for divorce if the husband is not domiciled in the country, but there is no uniform rule on this subject in the United States. English and American courts will take jurisdiction in actions on contracts no matter where they have been made or where they are to be executed, provided the parties are within reach of their process. More complex than the question of the competency of the court is the question as to what country's law should be applicable in any given case. Some states claim exclusive rights to punish persons of their nationality for crimes, no matter where committed. There is such diversity in the rules that have been applied that a basis for general formulæ can hardly be said to have been laid in this department of jurisprudence. The formulation of the science was practically completed by the Roman jurists, who invented it, in the domain of private law at least. The 'Institutes' of Gaius, whereof those bearing the name of Justinian and produced four centuries later are merely a recension, are still the point of departure for all scientific

studies of the law. Among English writers Jeremy Bentham (1748-1832) was the first to bring really scientific methods to bear on the subject. He was followed by John Austin, Sir Henry Maine and others. Thomas Erskine Holland in his 'Elements of Jurisprudence', which first appeared in 1880, and whose arrangement of the topics and definitions have been followed herein, has set forth the subject in an exhaustive yet very compact form.

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STEPHEN PFEIL.

JURUA, zhoo-roo-ä', a tributary of the Amazon rising in the Andes of Peru and flowing northeast through Brazil toward the Amazon, which it joins at Fonteboa after a meandering course of 1,200 miles, about one-third of which is navigable. The country along the greater part of its course is subject to great floods during the rainy season. The vast districts of the upper waters of Jurua and its many tributaries have been little explored; and some of it is still unvisited by white men.

JURY, 12 impartial men, legally competent to act, who, under the sanction of their oaths, determine by their unanimous verdict the innocence or guilt of the accused in a criminal trial, or decide the issues of fact which are contested between plaintiff and defendant in a civil trial.

The jury is the characteristic feature of English or common law, distinguishing it from the systems of continental Europe derived from the law of the Roman Empire. It is peculiar in itself and incidentally it has produced characteristic developments of our law not found in the Roman or civil law systems, of which perhaps the most noteworthy is our law of Evidence. The history of the jury system has been most thoroughly and ably investigated, especially in recent years.

Its function has completely changed. Originally those persons from the vicinity who had knowledge of the subject matter were summoned to court to state, upon their solemn oaths, what the common opinion of the neighborhood was as to those facts which formed the basis of the criminal charge to be tried, or the basis of the right to possession or enjoyment of land which was at issue, which were the typical cases of early days. It seems to have been soon established that 12 substantial men were a sufficient number to determine this question. As the judicial system developed,

courts came to have more extended territorial jurisdiction, and litigation grew more extensive. Attendance of 12 persons acquainted with the facts of each cause to be tried would impose an intolerable burden upon the community, and our forefathers worked out the plan of submitting their legal controversies to the decision of an impartial jury sworn to determine the facts in issue upon testimony given under oath by witnesses summoned by the parties.

Students of English and American history would probably unanimously agree that as a part of our system of civil government the jury has been a valuable institution. There can be no doubt of its educational value, and of its importance in making each freeholder who served on a jury feel that he was individually performing an important public duty. Juries played a conspicuous part in defense of popular rights against attempts at tyrannical exercise of authority by the executive government. In the libel cases of the 18th century the contest was bitterly fought, the judges, under the lead of Lord Mansfield, maintaining that whether a document was libelous or not libelous was a question of law for the court (that is, for the judge) to determine, the jury being limited to finding affirmatively or negatively the fact of publication; while the juries, on the other hand, contended for their right to find general verdicts ("guilty" or "not guilty"). The contest was settled by Fox's Libel Act in favor of the right of the jury to determine the guilt or innocence of the accused.

Students of law differ as to the merits of the jury system. Arguments drawn from the supposed mental inferiority of juries need not be considered, since this is not an inherent defect, and there is no more reason why a community should have inferior jurymen than inferior officials of any other class. But weighty objections of an essential character have been suggested. The chief is as to the requirement of an unanimous verdict, which, it is argued, must constantly produce a disagreement and failure to reach a conclusion, or the sacrifice of opinions conscientiously held by some of the jurors. There is no doubt that this requirement is an essential feature of the jury system as known to English law; it has been expressly so decided by the Supreme Court of the United States which, in interpreting the clause of the Federal Constitution which provides that in civil suits in the Federal courts "the right of trial by jury shall be preserved," has held that this requires the unanimous verdict of 12 men. A small number of the States have modified the system by providing for juries of less than 12, or of verdicts rendered by a vote less than unanimous. When such legislation is not in conflict with the State constitution it is lawful, as is doubtless the provision authorizing the service of women on juries.

Another objection is the doubt as to whether the jury is the best means of arriving at determinations of fact. This controversy has been bitterly fought, one side maintaining that the jury is not fitted, either by training or capacity, to decide fairly and intelligently doubtful questions of fact, and that one of its most important functions, that of assessing damages, is not properly performed, especially where the requirement of unanimity necessarily leads to

compromise verdicts. On the other hand it is argued that the jury, if properly drawn, represents the average intelligence of the community, and that when it does so, no fairer tribunal can be discovered, and not, perhaps, very consistently, that in civil matters control of the case is really in the judge, who by careful instructions can usually so direct the jury as to bring about an intelligent verdict, or, as a last resort, can set aside one which is clearly wrong, and award a new trial.

A verdict of acquittal in a criminal proceeding finally disposes of the charge against the defendant both by the common law and, in this country, by the provisions of the Federal Constitution (and of most, if not all, of the State constitutions) that no person shall "be subject for the same offense to be twice put in jeopardy of life or limb." Doubtless from this arose the doctrine that in criminal cases the jury are judges both of law and fact, which caught the popular fancy, is not without the weight of respectable judicial authority to sustain it, from the time of Junius, who upheld it in opposition to Lord Mansfield, has been a favorite doctrine of popular leaders, and only in recent years may be regarded as finally disposed of. The doctrine was discussed by Chief Justice Mitchell, of Pennsylvania, in a capital case in 1891, and pronounced by him to be "unsound in every point of view, historical, logical, or technical," and in 1895 the Supreme Court of the United States (speaking by Mr. Justice Harlan) reached the same conclusion and held that in the courts of the United States it is the duty of the jury in criminal cases to receive the law from the court, and to apply it as given by the court, subject to the condition that by a general verdict a jury of necessity determines both law and fact as compounded in the issue submitted to them in the particular case. Mr. Justice Gray filed a long and able dissenting opinion concurred in by Mr. Justice Shiras, and in this case, reported in 156 United States Reports (page 51), all the arguments on both sides can be found.

The grand jury is, historically, a sort of representative committee of the people of the district throughout which the jurisdiction of the court extends, charged with the duty of reporting to the court offenses which have been committed which they consider should be inquired into, and persons whom they believe to have committed criminal acts for which they should be punished. Its development into the modern grand jury is not well understood. The highest authorities on our early legal history say of it, "The details of this process will never be known until large piles of records have been systematically perused. This task we must leave for the historian of the 14th century."

The grand jury as an existing institution consists of a number of persons drawn from the same class as the ordinary or petit jurors. At the common law the number summoned was 23. They are sworn to the faithful discharge of their duties, and the court then delivers a charge to them, calling their attention to the duties they are to perform, either generally or with reference to any matters of special public interest falling within their jurisdiction to which the court thinks proper to direct their attention, and they can then proceed to business. All indictments are submitted to them and, according

as they determine, after hearing the prosecutor's evidence, whether they are well founded or not, they endorse them «true bill» or «ignoramus» (or equivalent words). In the former case the accused is held for trial, in the latter discharged. It is the custom for them to make report to the court on such matters as seem to them of public interest and importance, and to make such recommendations as seem good to them. The report made by them of any offense from their own knowledge or observation, without a bill of indictment laid before them, is called a Presentment. See VERDICT.

For the history of the origin and development of the jury, consult Pollock and Maitland, 'History of English Law' (Boston 1899); Thayer, 'Preliminary Treatise on Evidence at the Common Law' (chaps. ii-iv, ib. 1898); Stephen, 'Commentaries on the Laws of England' (Bk. V., ch. xiv); Stubbs, 'Constitutional History of England' (Oxford 1883); Cooley, 'Constitutional Limitations'; Lesser, 'Development of the Jury System' (1893); Forsyth, 'Trial by Jury'; Edwards, G. J., 'The Grand Jury Considered from an Historical, Political and Legal Standpoint' (Philadelphia 1906); Hamilton, T. F., 'Handbook for Grand Jurors' (Albany 1906); Sackett, Frederick, 'Instructions to Juries' (3 vols., Chicago 1908); Train, A. C., 'The Jury System: Defects and Proposed Remedies' (Philadelphia 1910). For a discussion of the merits of the institution under modern conditions which is generally accepted as full and impartial, consult 'The System of Trial by Jury,' by the late Mr. Justice Samuel F. Miller (21 Amer. Law Review, 859). For the origin of the grand jury, Pollock and Maitland, 'History of English Law' (Bk. II, ch. ix, § 4).

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JURY, a temporary contrivance employed to replace some part of a ship which has been lost or disabled. The word is supposed to come from the old French *mast d'ajurie* (helping mast); but its origin is uncertain. The terms jury mast, jury rig, jury rudder, jury anchor all designate temporary structures. The word is usually used as an adjective.

JUS GENTIUM, jŭs jĕn'shĭ-ŭm, a term which, in its broader sense, means international law. Among the Romans the «law of nations» was used with a very wide application, including the laws observed by the civilized nations with whom they came into contact, that is, had relations with. It extended not only to diplomatic but also to commercial relationships. At a later period *jus gentium* became restricted to the rules and regulations observed by independent governments in their dealings with each other. See CIVIL LAW; INTERNATIONAL LAW; **JUS NATURÆ**.

JUS NATURÆ, or **NATURALE**, natural law, the principles believed to be common to all minds and necessary to the comfort and progress of humanity. The Romans sometimes confounded the *jus naturæ* with the *jus gentium*, or law of nations (q.v.). The Stoics developed the idea of the *jus naturæ* as an altogether ethical conception to designate the law as it should be for the benefit of humanity as contrasted with the law as it existed with its many imperfections and injustices.

JUS PRIMÆ NOCTIS, the privilege granted to other persons than the husband to cohabit with the bride on the first one or several nights after the wedding. That such a custom existed there seems to be plenty of evidence; but that it was ever a law of tribes, peoples or nations is, at least, unproved. That there was a time in the history of humanity when the marriage custom did not exist and men and women cohabited promiscuously seems almost certain, and it may be that the custom of *jus primæ noctis* was a survival of this more primitive condition of human society. There is considerable evidence to prove that this right was allowed and exacted among certain savage tribes, the favored persons being the high priests and chiefs. In most cases the conditions of society where this privilege prevailed permitted a husband to have as many wives as he could support. In general, as a race advanced in civilization and culture and monogamy became a fixed institution the custom of *jus primæ noctis* became more and more frowned upon. Consult De Labessade, 'Le Droit du Seigneur' (Paris 1878); Schmidt, K. J. L., 'Jus Primæ Noctis' (Freiburg 1881); Westermarck, E., 'History of Human Marriage' (London 1908).

JUS RELICTÆ, in Scots law, the share of the widow in the movable property of her husband after his death, amounting to one-third if there are surviving children or grandchildren and to one-half if there are none. The husband by will could not take this share away from the widow, but by express contract she could accept an equivalent provision. However, if the husband dies insolvent, the creditors must be paid in preference to the widow.

JUSSERAND, zhu's'-răn', Jean Adrien Aubin Jules, French philologist, historian and diplomat: b. Léon, 18 Feb. 1855. He graduated in law and, entering the diplomatic service in 1876, he became legal adviser to the French embassy in London in 1887; Minister to Denmark in 1898; and Ambassador to the United States, 1902-25. He was vice-president of the Historical and Literary Society of France, Grand Officer of the Legion of Honor and Corresponding Fellow of the British Academy. Among his published works are 'Le Théâtre en Angleterre depuis la Conquête jusque aux prédécesseurs immédiats de Shakespeare' (1878); 'Les Anglais au Moyen Age' (1884); 'Le Roman Anglais' (1886); 'A French Ambassador at the Court of Charles II' (1892); 'With Americans of Past and Present Days' (1916); 'Histoire du peuple Anglais' (3 vols., 1895-1909). His 'History of the English in the Middle Ages,' which was crowned by the French Academy, was translated into English under the title of 'English Wayfaring Life in the Middle Ages' (1889) by Lucy T. Smith; as was also his 'Roman Anglais'. In 1913 he published 'Ronsard'; in 1916 'With Americans of Past and Present Days.' He died 18 July 1932.

JUSSIÉU, zhu'sĕ-ē', Laurent Pierre de, a French writer: b. Villeurbanne, 1792; d. 1866. A nephew of Antoine Jussieu and grand-nephew of Joseph, Bernard and Antoine (the elder) de Jussieu, he inherited much of the talent of his illustrious ancestors. After the Revolution of 1830 he became secretary-general of the Seine and in 1839 a member of the

chamber of Deputies. After the fall of Louis Philippe he retired to private life. He was a strong and consistent advocate of general primary instruction and fought for the extinction of illiteracy from among the French laboring classes. He wrote extensively for the public press and published numerous educational works that had wide circulation and extended influence. Among the latter are *Simon de Nantua* (Paris 1818), which has been published many times and in all kinds of editions and translations into several foreign languages; *L'Abbé Gauthier, de Montègre, Moreau de Saint Méry et Mesnier* (Paris 1819); *Le village de Valdoré* (Paris 1820); *Antoine et Maurice* (Paris 1821), which was crowned by the Society for the Improvement of Prisons; *Exposé analytique de l'Abbé Gauthier* (Paris 1822); *Pierre de Giberne* (Paris 1825); *Oeuvres Posthumes de Simon de Nantua* (Paris 1829), which won the Montyon prize of the Academy; *Les Petits Livres du père Lami* (6 vols., Paris 1830-42); *Fables et contes en vers* (Paris 1844); *Cloud Grangambe* (Paris 1854).

JUSTE, zhust', **Théodore**, Belgian historian b. Brussels, 1818; d. there, 1888. He was professor of history at the École de Guerre and member of the Belgian Academy. Among his numerous works are *Histoire de la révolution des Pays-Bas sous Philippe II* (1855) and *la Révolution belge de 1830* (1872).

JUSTEL, zhu-stél', **Christophe**, French Protestant theologian: b. Paris, 1580; d. there, 1649. Secretary to King Henry IV and then to the duc de Bouillon, he was given the task of organizing the library of the University of Sedan, one of the most important libraries of the 17th century. He was the author of *codex canonum Ecclesiae universae* (1610); *le Temple de Dieu ou discours de l'Eglise, de son origine et de l'excellence des perfections de l'Eglise chrétienne* (1618); and genealogies of the noble houses of Auvergne, Turenne and Vergy (1645). His son Henri Justel (1620-1693), was secretary and councilor to the king. Emigrating to England in 1681, he was appointed librarian of the royal library of Saint James's. He wrote *Bibliotheca juris canonici* (1661) and *Recueil de divers voyages faits en Afrique et en Amérique* (1674).

JUSTICE (French, *justice*, Latin, *justitia*), one of the cardinal virtues of the Greeks and the Romans. It seems to have been a personification of social and moral duty, that is, of the moral law, which might or might not correspond with the temporal law. Justice was the highest idea of the correct bearing of all the members of a community to one another and of the law of the state to the individuals constituting its population. An action or condition might be legally right and morally wrong, as the holding of slaves, the torturing of prisoners taken in war, the exactions often made by the ruling classes upon the peasantry, the persecution of the members of one sect by those of another. The customs, conditions and laws of states and communities change with the changing times; but justice remains the same in all ages and among all peoples, since it is based neither upon man's conception of what justice really is nor upon his administration of what he

calls justice, but upon the intrinsic and inherent rights of all, born of the social equality of all before the law. Thus the ancient conception of justice, carried to its natural conclusion, was purely democratic; and among the philosophers it maintained this complexion even in the most autocratic periods in the life of Greece and Rome. But as the conception of justice as one of the graces was largely academic, autocracy had little to fear from it. Yet to this persistent personification of justice later democracy owes much of its ability to state concisely and clearly its position as champion of the rights and obligations of humanity as a whole. The conception of absolute justice as the securing to humanity, security of possessions, freedom of action, and the right to realize expectations insofar as these do not conflict with similar rights and privileges of the community as a whole is not new. It is as old, at least, as the struggle of the upper and the lower classes in Rome, and probably much older; but it has remained for the present age to analyze more closely the attributes, functions and field of action of ideal justice, which, from the very fact of its being ideal, is never fully attainable, since there is and cannot be any such a thing as absolute justice, the administration of which would presuppose absolute perfection in the human race. Justice, as an ideal virtue (or as the personification of such), is therefore an aim in the administration of the law to be continuously striven for with the hope of getting constantly nearer to it; but also with the moral certainty of never ultimately reaching it in this world. See also **ETHICS**.

Legal, a term used in two senses, one of which makes it equivalent to the justice meted out by the administration of the law, and the other of which considers it as the equivalent of the moral right in a question at issue, irrespective of the attitude taken by the law itself or its administrators. A decision may be, and sometimes is, legally correct, but morally unjust. In this latter sense there is a survival of the classical idea of justice personified as a cardinal virtue. Legal justice, in adjudging a case, is required to take into consideration all the facts and circumstances in the case and their bearing upon one another and upon the individuals and rights and other matters concerned in the legal decision or decree. All this must be done in conformity with the law and its particular bearing on the case. The object of the law is to do justice to the individual while protecting the community as a whole. Through its inflexibility the law may occasionally work a hardship upon the individual. This is because it is finite and the ever-changing conditions of humanity are infinite. The tendency of the whole body of the law is gradually to provide a fuller and freer administration of justice to the members of all classes of society. See also **LAW**; **JURISPRUDENCE**.

JUSTICE, a play by John Galsworthy first produced at the Duke of York's Theatre, London, England, February 21, 1910. The play, a tragedy in four acts, concerns a forgery by William Falder, a junior clerk in a solicitor's firm, of a check for £90 to enable him to help Ruth Honeywill and her children escape from her sadistic, drunken husband. Falder is found out and ultimately sentenced to three years penal

servitude. Because he feels that he cannot accept the platitudinous kindnesses of the prison's governor and doctor, Falder becomes bitter and morose. When he is at last released, he is unable to hold a position after other employees discover his past record; and, having once more seen Ruth Honeywill, whose life has been equally miserable, he throws himself upon the mercy of his former employer. Only at the price of foregoing his relationship with Ruth, the only hope that sustained him in prison, can Falder regain his employment. Ruth agrees to the bargain, but Falder, unable to face further bitterness, commits suicide.

The play presents clearly one of Galsworthy's most prominent and passionate themes—human justice versus the law. A young lawyer, Hector Frome, pleads the side of humanitarianism, declaring that Falder was so emotionally disturbed that he was incapable of rational action. The judge refuses to accept the power of emotion as empirical evidence and concludes, "The Law is what it is—a majestic edifice . . . I am concerned only with its administration." The true tragedy of the play is that the protagonist is unable to deflect from himself the impersonal force of the law that, inexorably, frames his destiny.

JUSTICE, Department of, in the United States, an executive department of the government, the head of which, the Attorney General, is appointed by the president and confirmed by the Senate. He is a member of the cabinet and under the provisions of the Act of Congress of Jan. 19, 1886 as amended June 25, 1948, he ranks sixth after the vice president, in the line of succession to the presidency in case of a vacancy in that office. His salary is \$22,500 a year.

The office of the Attorney General was established by the Judiciary Act of September 24, 1789 which provided for the federal courts. However, the Department of Justice was not organized into a separate department and placed under the Attorney General until June 22, 1870 when, by Act of Congress, the establishment of the department brought under his direction and control all United States district attorneys and other counsel employed on behalf of the United States; gave him supervisory power over United States marshals, and secured uniformity in the handling of legal matters and the trial and prosecution of cases.

The Department of Justice is the largest law office in the world, with a staff of more than 31,000 persons throughout the nation and its territories, and the Attorney General is the federal government's chief law officer. He is legal adviser to the president on any questions of law which may arise in the conduct of administrative affairs; is required by statute to give advice and opinion to the head of any executive department of the government, when requested; directs special matters relating to national defense; directs 30 penal institutions, ranging from federal jails and camps to penitentiaries; supervises the work of United States attorneys and United States marshals; approves abstracts of title for lands acquired by the government for national parks, slum clearance projects, post office sites, and such wartime installations as airfields, camp sites and naval bases; supervises all litigation in the courts, civil or criminal, to which the government is a party; represents the United States in legal matters generally; appears in the Supreme Court in

cases of exceptional importance, and provides special counsel for the United States in certain cases or when the character of the interests involved requires such action.

The chief assistants to the attorney general are the solicitor general; the deputy attorney general; nine assistant attorneys general, in charge respectively of divisions entitled Criminal, Antitrust, Lands, Claims, Tax, Customs, Executive Adjudications, Office of Alien Property, and Administrative; the Director of the Federal Bureau of Investigation; the Director of the Bureau of Prisons, and the Commissioner of Immigration and Naturalization. There are two departmental boards, the Board of Immigration Appeals and the Board of Parole. In addition, there are 94 United States attorneys and 94 United States marshals.

Second in rank is the solicitor general, directly in charge of all government litigation in the Supreme Court of the United States. He assists the attorney general in the execution of his duties and, by a special provision of law, performs all such duties in case of a vacancy in the office of attorney general, or in his absence. The deputy attorney general is the third-ranking official of the department and has charge of the general administration. He assists the attorney general in the formulation of major departmental policies and programs, and acts as liaison with the Congress in connection with legislation in which the department is interested.

The Criminal Division is charged with the enforcement of federal statutes, and with cases involving criminal offenses punishable under federal laws.

The Antitrust Division is principally concerned with the elimination of restraints in interstate and foreign commerce which are in violation of the Sherman Act and other antitrust statutes.

The Tax Division handles, on behalf of the federal government, the prosecution and defense of all criminal and civil suits relating to taxes, except customs taxes and taxes on beverages.

The Lands Division handles legal matters arising in connection with the public domain; conducts litigation relating to Indian affairs; passes upon the validity of title to real property which the United States proposes to acquire and conducts the necessary condemnation proceedings; serves as public counsel in the courts in proceedings under various conservation acts.

The Claims Division handles civil suits and claims for and against the government and its officers, including matters pertaining to patents, copyrights, civil bankruptcy, and admiralty.

The Executive Adjudications Division handles executive orders, recommendations upon legislation, the preparation of opinions and like matters; handles conscientious objector cases; coordinates departmental matters concerned with United States participation in the United Nations and related international organizations.

The Customs Division is invested by statute with responsibility for the interests of the government in all matters of reappraisal and classification of imported goods and of all litigation incident thereto.

The Office of Alien Property exercises the authority delegated to the attorney general as successor to the alien property custodian under the Trading with the Enemy Act and Executive orders issued pursuant to that act to seize, administer and sell property in the United States, its

territories and possessions owned by nationals of foreign countries.

The Administrative Division is charged with the responsibility for business management of the department handling personnel matters, budget and accounting, services and procurement, records and files and general office services, including those relating to the offices of the United States attorneys and marshals.

The Federal Bureau of Investigation (q.v.) has general charge of investigation of offenses against the laws of the United States, except counterfeiting, narcotics, and other specifically assigned laws.

The Bureau of Prisons has charge of federal penal institutions and prisons, and is vested with the control and management of all such institutions except those maintained by the Army and the Navy.

The Immigration and Naturalization Service administers the immigration, alien registration, and nationality laws relating to the admission, exclusion, detention and deportation of aliens, the registration of aliens, and the naturalization of aliens. The Board of Immigration Appeals reviews for final decision certain appeals from orders of the commissioner of immigration and naturalization in alien matters.

The Board of Parole grants and revokes paroles of federal prisoners.

The United States attorneys are charged with prosecuting crimes and offenses against the United States, and the United States marshals have the same powers in their judicial districts in executing the laws of the United States as sheriffs in the States have in executing state laws.

Other duties handled by the Department of Justice include supervision of the revision and codification of the criminal and penal laws; the recommendation of judicial appointments; the administration of the national bankruptcy laws; and investigations and recommendations in connection with applications for executive clemency.

JUSTICE OF THE PEACE, minor magistrates in English-speaking countries appointed to keep the peace in the jurisdiction to which they are assigned. In England these officials are appointed by commission of the crown, by act of Parliament, or by charter, with well-defined duties "to keep all ordinances and statutes for the good of the peace, and for the good rule and government of all the people."

In the United States, in some cases justices of the peace are appointed by the executive, in others they are elected by popular suffrage. Their powers and duties differ somewhat in the several jurisdictions, but in general they have jurisdiction in minor civil and criminal cases, their powers being expressly defined by statute. They also conduct a preliminary inquest or examination of offenders charged with felony and hold such for the upper court, bail being allowed in nearly all cases except murder.

Consult Baylies, E. (ed.), *Bender's Justices Manual of Civil and Criminal Law and Practice for Justices of the Peace and Police Justices in New York* (3d ed., New York 1913); and Haines, E. M., *Practical Treatise on Powers and Duties of Justices of the Peace and Police Magistrates* (16th ed., Chicago 1905).

JUSTICES' CLERK, an officer in England who assists the justices of the peace. He is always a lawyer and generally has much influence owing to the fact that many of the justices

of the peace fall short of the requirements of their office in so far as familiarity with the law is concerned. Though the justices' clerk is not looked upon as a public officer, he has a certain legal standing and is permitted to collect fees for the business of his court.

JUSTICIAR, jüs-tish'i-är, in English history, the chief political and judicial officer of the Norman, and later, kings until the 13th century.

The chief justiciar was the highest legal officer in the kingdom; he was president of the Court of King's Bench and of the exchequer, and all other courts were under his authority. In the absence of the sovereign from the kingdom, he was *ex-officio* regent. His office was one of the highest in importance and influence.

JUSTICIARY, High Court of, the supreme criminal court of Scotland, having authority to try all crimes except those excluded by statute. It is said that decisions of this court are not subject to appeal or review, but it is probable that the House of Lords could hear an appeal on a question of law. The lords of judiciary hold circuits twice a year, there being three circuits, the northern, southern and western.

JUSTIFICATION. Under this head fall many intricate problems toward the solution of which theology contributes in its discussions of that very abstract subject: Grace. The term explains itself and no matter where it is applied the fundamental idea is the same and means pardon, acquittal, readjustment, restoration. In divinity it aligns itself very closely with atonement and imputation (q.v.). No matter how opinions may differ as to its nature, there is agreement on this, that justification may be defined as that process whereby fallen man is forgiven his transgression and restored as much as is compatible with his changed condition to the state and privileges which were his before his disobedience. All Christians admit that this reprobation came and comes through Christ. It has been and is the dueling ground of the two religions which have most largely divided the world. Relating to this topic the attitude of Catholics and Reformers is antipodal. The leader of Protestantism is clear in his affirmation. Catholic teaching and dogmatic enunciation is not one whit less positive. The question is cardinal for both. In the process of justification the agent is God through Christ; the object, man. The crux of the difficulty is how does God effect it and how is man affected by it. Is righteousness imparted or infused? Luther and his disciples consider justification as imputed to the individual. This restored condition is something outside himself, with which he has nothing to do. "The justified man is not only acquitted as innocent but regarded as having perfectly obeyed the law in the person of Christ. There is to him the nonimputation of sin and the imputation of righteousness." "The faith doth not shut out repentance, hope and the fear of God in every man justified, but it shutteth them out from the office of justifying." (Church of Eng. Homily.) It becomes imperative for every attempt to solve this problem to consider man's will and divine grace. Luther, apprehensive lest by any concession he might minimize the value of the latter, denied free will in human nature and asserted that by

faith, a strong faith in the special mercy of God, and by that alone man was justified. To use his own words (Cap. 2 ad Galat.): "Faith, without and antecedently to charity, justifies." Faith does not cause justice in any way—it is not the cause but the organ of justification. Man is in no way intrinsically affected by it and its essence is in the imputation of the justice of Christ. Calvin referring everything to the elect teaches that faith once received can never be lost, that is, a man justified is so forever, independently of his actions. Baptism is not necessary for salvation. The predestination of the elect is their salvation. The breaking up of Protestantism into the many denominations which now exists necessarily brought variants in this doctrine, yet it may be put down as the generally accepted formula. The idea was not new if we are to credit what Saint Augustine says (*De fide et oper.* 14) wherein he remarks that even in the time of the apostles some, not understanding, concluded from the epistles of Saint Paul that faith alone was necessary for salvation, whereupon Peter, James and Jude wrote to instruct the faithful that such was not the meaning of Saint Paul's words. The Catholic theology has been reproached with emphasizing the worth of man's works to the detriment of divine grace. The doctrine of Catholics is that Pope, councils, the fathers, the doctors and the apostles, and hence Christ, affirmed that justification is of a nature to require, except in infant baptism, good works on the part of man to ripen unto salvation. Faith alone will not suffice. It is gratuitous and unmerited save through Christ. It is supernatural. It is a created gift and when bestowed, as in justification, the recipient becomes inherently just, not accidentally nor vicariously. Initial justification is infused in baptism, which sacrament incorporates the one baptized into and with the mystical body of Christ, his church, and lives by grace, which is living of the life of Christ as an engrafted branch lives the life of the vine. In this incorporation, since Christ is Son of God, is founded the adoption and heirship of the baptized as sons of God. What is said of baptism is held concerning justification as administered by the other sacraments. It is not contended that by it sin is blotted out "historically," that is, sins committed do not cease to be part of man's past, but are remitted inasmuch as they are provocative of God's anger and as truly pardoned as if the sinner had never rendered himself guilty of them; they are effaced in the moral order and in the physical order the stains they leave on the soul are washed out, stains which make the soul displeasing to God. Natural powers, no more than the Mosaic law, suffice for salvation which is to be reached through Christ only and for which in the adult some disposition of his own contributing is requisite. Moreover, while by justification sin is remitted, this remission calls for an interior disposition and renovation of soul, whence justification is a quality superadded to the soul to which it is inherent and therefore is more than transference or imputation. The fruits of justification are the rendering of man pleasing to God, just, beautiful, like unto Christ, a living member of Christ and God's son by adoption, heir to the kingdom of heaven, a participant in the divine nature (*Consorts divinæ naturæ*) and capable of condign merit.

When a man is justified there is within him a special indwelling of the Holy Spirit. There is no understanding with accuracy these different theories of justification save by a thorough inquiry into the views of theologians on the very abstruse questions of the incarnation and grace.

Bibliography.—Denziger, 'Enchiridion'; Humphrey, 'The One Mediator'; Mohler, 'Symbolism'; Newman, 'Justification'; Oxenham, 'The Catholic Doctrine of the Atonement'; the works of Luther, Melancthon, Calvin, etc.; Decrees of the Council of Trent, Systematic Theologies; Art, *Rechtfertigung*, *Kirchenlexicon*.

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JUSTIFICATION (Latin, *justificatio*, justification), a defense in a civil or criminal action showing that the defendant was legally justified in doing what it had been admitted in court, he did do, and that, therefore, the alleged cause of action is not legally sufficient. All the facts to be used in the justification must be legally set forth as such and as constituting an answer to the action; and the conclusion to be drawn therefrom depends upon those having the legal power of decision in the case. The presentation of facts of justification is common in cases of accusation of crime. A man accused of homicide may plead that the act was committed in self-defense, or in the execution of the law by an officer of the law or his aids or assistants. A policeman may plead that he killed a man to prevent his escape or because he showed fight, or because he refused to surrender when called upon to do so. An automobile driver may defend himself against an action for homicide on the ground that he had taken all possible care, that he had not exceeded the speed limit and that the death of the party in the case was due to his own carelessness, or to some accident or condition over which the accused had no control.

JUSTIFICATION, or PROOF BY SURETIES, is a term employed in the legal action taken by the said sureties on a bond or undertaking to prove that they possess the requisite legal property qualifications.

JUSTIN (MARCUS JUSTINIANUS JUSTINUS), a Latin historian, who probably lived at Rome in the 2d or 3d century A.D. He made an epitome of the general history of antiquity by Trogus Pompeius, a native of Gaul, who lived in the time of Augustus, and whose work is no longer extant. This epitome, although incorrect in detail, is valuable for its compressed reproduction of the old histories. The first English version, by Goldingé, appeared in 1574.

JUSTIN I, Byzantine emperor: b. 450; d. 1 Aug. 527. He was a peasant of Dacia and rose from the rank of a common soldier to the commander of the imperial guard, and on the death of Anastasius I in 518 became emperor. He relegated the civil administration to the quæstor Proclus, and between them the empire was governed with a fair amount of success. Consult Bury, 'Later Roman Empire' (1889).

JUSTIN II, Byzantine emperor: d. 5 Aug. 578. He succeeded his uncle Justinian I in 565. In 574 his difficulties led him to abdicate in favor of Tiberius, captain of the guard. During his reign northern Italy was conquered by the Lombards, and the Persians took pos-

ession of several Asiatic provinces of the empire.

JUSTIN MARTYR (sometimes known as **JUSTIN THE PHILOSOPHER**), a Christian apologist and martyr: b. Flavia Neapolis, Shechem, Palestine, 100 A.D.; d. Rome, 165. He began active life as a professor of Platonic philosophy, and subsequently embraced Christianity without abandoning Platonism. He was a staunch adherent of the Christian party in the empire, a keen confuter of Gnosticism and an unwearied defender of the Christian doctrine of the Logos. In every department of Christian dogma he stood foremost as a teacher. Eventually he went to Rome (150 A.D.) and during 10 years of activity he wrote his *Apology*, with a supplement known as the *Second Apology*, addressed to the Emperor Marcus Aurelius. He afterward had a controversy with a Jew, an account of which is embodied in his *Dialogue with Trypho the Jew*. He was put to death for his faith, and his day on the Church calendar is April 31.

JUSTINA, second wife of Valentinian I (364–375); mother of Valentinian II. She was successful in her efforts to restore her son to the throne. Her influence was not powerful enough to prevent Valentinian from accepting baptism at the hands of Ambrose, in spite of her sympathy with the Arians and her antipathy for Ambrose.

JUSTINIAN I (in full **FLAVIUS PETRUS SABBATIUS JUSTINIANUS OF FLAVIUS ANCIUS JUSTINIANUS**, surnamed **JUSTINIAN THE GREAT**) emperor of the East: b. of Gothic peasant parentage at Tauresium, Illyricum, 483 A.D.; d. 565. Patronized by his uncle, Justin I, who, from a Thracian peasant, had become emperor, he so flattered the Senate and dazzled the people that he was made consul, and took the title of *Nobilissimus*. On the death of his uncle, with whom he had latterly shared the imperial power, he was proclaimed emperor, and married an actress named Theodora. During his reign the party disputes of the Greens and the Blues became so violent, that in his attempt to quell the tumults the emperor's own life was in jeopardy, and a great part of Constantinople was destroyed by fire in 532. Aided by his generals, he was able subsequently to restore to the Roman Empire a part of its former possessions, as when Belisarius in 523 and 529 defeated the Persians, and achieved victories in Africa, and when Narses put an end to the Ostrogoth rule in Italy. Turning his attention to the laws, Justinian commissioned 10 learned civilians to draw up a new code, and the result was the *Corpus Juris Civilis*, or body of civil law. See also **CODE**.

Justinian took great interest in building cities, fortifications and churches; among the latter he rebuilt the church of Hagia Sophia at Constantinople. To maintain his public munificence he oppressed the people with taxes.

Consult Baker, G. P., *Justinian* (London 1931); Burnet, J., *Aids to Justinian* (London 1936).

JUSTINIAN II (surnamed **RHINOTMETUS**), Byzantine emperor: b. 669; d. December 711. He succeeded his father, Constantine IV, in 685, and was deposed and banished for his cruelty, by his general, Leontius, in 695. He regained his throne 10 years afterward, and was overthrown by Philippicus Bardens and killed.

JUTE. Two species of plants yield the jute of commerce, *Corchorus capsularis* and *C. olitorius*. They are tall annuals, 8 to 15 feet high, the fiber being produced in the bark, and known as bast fiber. Supposed to be indigenous to India, where the species grows wild, cultivated to a limited extent by other Eastern people, as the Chinese and Malays, *C. olitorius* is naturalized in all parts of the tropics to the shores of the Mediterranean. Jute was introduced into the United States by the Department of Agriculture in 1870, and was found to be adapted to cultivation along the line of Gulf States from Texas to South Carolina. It should be noted that the China jute of commerce is not jute at all, but a similar bast fiber derived from *Abutilon avicennae*. This plant was experimented with in New Jersey in the 1890's, though unsuccessfully, the fiber being wrongly called American jute. In India many kinds of jute are recognized, all being known under local trade names, which are unimportant here. The value of jute as a textile lies wholly in its fineness, silkiness and adaptability to spinning, low cost of the raw material being another advantage. Several American fiber plants classed as weeds yield a better, whiter and stronger fiber, though they cannot be utilized for economic reasons. The fiber of jute, compared with other textiles, is quite inferior, the bleached filasse soon losing its whiteness and becoming a dingy, dirty brown, while its strength rapidly deteriorates. Nevertheless it may be regarded as one of our most useful fibers—too useful in certain directions, as its fineness and luster, as well as cheapness, adapt it most readily to purposes of adulteration, and as it takes colors easily it can be stained or dyed to imitate many of the other fibers, though such frauds are not difficult to detect. The uses of the fiber are many, and it enters into all classes of textiles from woven fabrics of great beauty to coarse ropes and bagging. The fiber is also made into all kinds of cordage, either honestly, as jute, or as an adulterant, considerable quantities having been used in past time for the manufacture of binding twine. The commercial use of jute dates back over a century, the first exports in noticeable quantity (about 18 tons) having been made, to England, in 1828. By 1850 the exports had reached 30,000 tons; in 1871, 310,000 tons. Both high and low lands in India and Pakistan are employed for this culture, although the larger part of the crop is produced upon the "churs" or lands of recent alluvial formation along the rivers. In the United States river bottoms would be favorable for the culture, in localities of the South.



Jute: fruit and plant; natives cutting it; as used for bailing material.

Twelve to fifteen pounds of seed is the average quantity sown per acre. In India the yield is about 400 pounds of fiber per acre. Little or

no cultivation is given the crop save thinning out where overcrowded. The plants mature in three months and the crop is harvested with a bill hook and sickle when the flowers have begun to show and the seed has not yet appeared. If the plants are allowed to seed, the fiber will be stronger and heavier, but harsher. The stalks are sorted as to length into three sizes, and made into bundles that one man can carry. The extraction of the fiber is accomplished by steeping the bundles in stagnant water, covering them with jungle plants, clods of earth or cow dung. When the retting is completed the ryots go into the water waist deep, and by thrashing the surface of the water with the stalks, assist the loosening of the bark with the fingers, and the fiber is separated. Afterward it is wrung out and hung upon lines to dry. It is next made into drums of 70 or 80 pounds. If for exportation, it is pressed into bales of 300 pounds or over. Jute is treated by processes similar to those employed in turning flax into linen. Special machines are used for the various processes, such as heckling, spreading, drawing, roving and spinning.

World War II had an adverse effect on jute production. The 1934-1938 prewar average of world production was 1,875,000 metric tons, while the largest postwar production amounted to only 1,568,000 tons in 1947-1948, and the 1948-1949 production dropped to 1,391,000 tons, nearly all of which originated in India (368,000 tons) and Pakistan (994,000 tons). The world shortage stimulated an increase of about 12 per cent in the 1949-1950 acreage of the crop in Pakistan and about 30 per cent in India's acreage. Most of the world's export of jute is shipped from these two countries as fiber or fiber manufactures. The United States importation in 1948 amounted to about 75,800 tons, compared with a prewar average of 73,200 tons. A United States Department of Commerce preliminary estimate of the price of jute and jute butts imported into the United States in 1948 was \$348.99 per long ton (2,240 pounds), and of jute burlaps, 25.9 cents per pound. The total value of jute and jute manufactures imported into the United States in 1949 was \$141,995,000, and of the same products exported, \$5,473,000 (*Statistical Abstract of the United States 1950*).

JUTES, or **JUTS**, one of the Low German tribes who shared in the occupation and conquest of England in the 5th century A.D. They came from the European continent but from just what part of its western coast is not certain. It has been customary to identify their original habitat with that of modern Jutland. It is contended, however, by some investigators that the Jutes spoke quite a different tongue dialectically from that of the people of modern Jutland, which is Danish. An attempt has been made to identify the Jutes with the Frisians and thus to reconcile the apparently conflicting statements of Bede, who states that the tribes invading England were Angles, Jutes, and Saxons; and of Procopius who asserts that they were Angles, Saxons, and Frisians. Modern research has attempted, with more or less satisfactory results, to identify the Jutes with the roving Low German bands who, spreading over the North Sea and adjacent islands and British coast to the west, took possession of much of the south of England, parts of the Lowlands of Scotland, the Shetland, Ork-

ney and Hebrides islands. Efforts have also been expended in attempting to prove the persistence of the Jute type in southern England and the Lowlands of Scotland today, as distinct from other English types, existing or supposed to still exist from the days of the Germanic and other tribal invasions, occupations and conquests.

Consult Ripley, W. Z., *Races of Europe* (London 1913).

JUTLAND, jüt'länd (Danish JYLLAND), peninsula. Denmark, bounded on the north by the Skagerrak, south by Schleswig-Holstein province, west by the North Sea, and east by the Kattegat. Its total area, including the surrounding islands, is 11,411 square miles. The coast line is much broken by fjords, the Lim Fjord insulating the north section of the peninsula.

The country is generally low-lying, and presents little picturesque scenery. The minerals are confined to iron, limestone, and marble. The name is derived from the nation of Jutes who dwelt on the peninsula (see JUTES). Jutland was in early times an independent kingdom, but was conquered by Gor the Old, king of Denmark, who died ?940.

In World War I, the great naval Battle of Jutland (q.v.) was fought off the west coast of the peninsula. In World War II the peninsula was invaded by the Germans in 1940; they occupied it until the end of the war. Pop. (1945) 1,672,235.

JUTLAND, Battle of, one of the great sea fights of history, also known as the Battle of the Skagerrak, was fought in the North Sea on May 31-June 1, 1916 between the British and German fleets. According to the German Admiralty, the High Seas Fleet was bent on "an enterprise directed northward"—probably to support Hindenburg in the Baltic. There is little reason to believe that it was the German intention to challenge the entire, overwhelming naval power of Britain. Admirals Reinhard Scheer and Franz von Hipper encountered the Battle Cruiser Fleet under Admiral David Beatty, who was steaming north to rejoin the Grand Fleet of Sir John Jellicoe. The battle opened at 3.30 p.m. and lasted throughout the night. The British Grand Fleet in this engagement comprised 37 capital ships, 8 armored cruisers, 26 light cruisers, and 80 flotilla leaders and destroyers, commanded by Admiral Sir J. R. Jellicoe. Admiral Scheer's German High Seas Fleet numbered 27 capital ships, 11 light cruisers, and 63 flotilla leaders and destroyers. The action was fought about 75 miles west of the Danish coast, and ended with the flight of the German ships. Though British casualties far exceeded the Germans' in ships and men, the net effect of this action was to destroy German hopes of challenging British sea power.

JUTURNA, Fountain of, a spring at the foot of the Palatine Hill, Rome, which tradition says was named by Jupiter after a water nymph with whom he was in love. The spring or fountain was just south of the celebrated temple of Castor and Pollux, where it is said that these two appeared, in 496 B.C., to announce the defeat of the Latins at the hands of the Romans at the Battle of Lake Regillus. The spring, though neglected and partially filled up, is still active. (See CASTOR AND POLLUX; NYMPHS.) Consult Hülsen-Carter, *The Roman Forum* (Rome 1906); Macaulay, *Lays of*

Ancient Rome; Virgil, Aeneid, XII; Wissowa, G., Religion und Kultur der Römer (Munich 1912).

JUVENAL, jōō'vē-n'l (full name DECI-MUS JUNIUS JUVENALIS) Roman satirist (60?-140 A.D.). The evidence for his life, while fairly abundant, is of so dubious and conflicting a character that it is impossible to reconstruct the poet's career with any certainty. After the accession of Trajan in 98 A.D. he began to publish satires in which, with extraordinary force and indignation, he described the conditions of life at Rome, for the most part as they existed during the reign of Domitian (81-96). He was apparently an intimate friend of Martial, who mentions him in three epigrams (VII, 24 and 91; XII, 18), though the two men were widely different in their outlook on human life. See also JUVENAL'S SATIRES.

JUVENAL'S SATIRES, the 16 satires of the Roman poet Juvenal (q.v.), the product of his maturer life. None of them was composed with certainty before the year 100 A.D. For the most part they are poems of moderate length, seldom exceeding 300 lines. Several are much briefer.

The *Satires* deal with the social defects of the times, and cover a fairly extensive range of topics. The first satire gives the poet's excuse for writing; everyone else is composing, why not he! Moreover, whoever contemplates the social degeneracy of the day must naturally feel impelled to write in arraignment of existing conditions and tendencies.

The second satire deals with a phase of sexual perversion more characteristic of antiquity, probably, than of modern times. The ninth has a similar theme.

In the third, Juvenal deplores the fact that Rome is no longer an endurable place of residence to an honest man. Only he who will lie, cheat, murder, can win advancement in the Rome of Juvenal's day. Foreigners—especially Syrians and Greeks—have invaded the capital in such numbers that it is no longer Roman but Greek. Houses are so poorly constructed that they often fall in ruins. Rent and provisions are high. Conflagrations are common. The noise of traffic has become unbearable, while theft and assault are the order of the day.

The fourth satire touches upon the degeneracy of the Senate. In the reign of Domitian, this body had so deteriorated in dignity that Juvenal represents senators assembling in a council of state to discuss the fitting way of serving an unusually large turbot at the imperial table.

The fifth satire deals with the trials and indignities of clients or parasites. A large class of dependents had sprung up in the empire, men often of respectable antecedents but now in reduced circumstances. These clients danced attendance on the great men of the day, and in return received a small daily dole of money and an occasional invitation to their patron's table. The studied discrimination of which they are made the object on such occasions is the special theme of the satire.

The sixth satire deals with the license practiced by a certain class of the women of the day. The seventh bewails the unfortunate lot of literary men. Poets, historians, orators, rhetoricians, teachers alike are all ill paid, neglected, and unhappy. The eighth satire arraigns the pretensions of those who pride themselves on their descent. Virtue alone, says the poet, is true nobility. Noble birth should impose responsibilities, but the nobles of Juvenal's day go on the stage and appear as gladiators in the arena.

The tenth (probably the most famous of the whole collection) is on the vanity of human wishes—the desire for power, for money, for long life, for beauty. The emptiness of all these is illustrated by examples. Shall we then pray for nothing? Yes, a sound mind in a sound body (*mens sana in corpore sano*), a contempt for death, and a willingness to endure toil.

The eleventh satire exalts the simple life and country joys. The twelfth is aimed at the legacy hunter. The thirteenth returns to the general degeneracy of the times and pictures the torments of a guilty conscience. The fourteenth emphasizes the contagion of a bad example, especially in the home, and exhorts parents to be worthy of imitation by their children. The fifteenth aims to illustrate Egyptian barbarity by an account of an Egyptian custom. The sixteenth (a fragment) enumerates some of the advantages of the soldier's life and status.

Juvenal lacks the urbanity of Horace. Conscientious of his own rectitude, he is unscathing in his denunciation of the faults of others. At times he almost deserves the name of scold. Yet his purpose was lofty and he not infrequently rises to great nobility of sentiment and expression.

CHARLES E. BENNETT.

JUVENILE DELINQUENCY, a relatively modern concept referring to the criminality of nonadult persons and to certain forms of behavior on their part which, within the context of different cultures, are regarded as socially deviant. The concept has gained general acceptance only in the 20th century, following the creation in 1899 of what is now acknowledged as the world's first juvenile court in Cook County, Ill. Previously, all offenders, regardless of age, were dealt with according to the nature of the offenses committed by them, such treatment being usually punitive. Juvenile court philosophy drew attention to the individual as someone in need of care and protection in view of his immaturity. The offence committed by him was subordinated to this consideration.

History.—In the history of the administration of criminal justice, among the early attempts to give differential treatment to persons of tender years, mention may be made of the 10th century monarch, King Athelstan of England, who enacted a law that "man shall not slay none younger than a fifteen winters' man." On the whole, however, a juvenile who had committed an offense was dealt with as an ordinary criminal, and it is not surprising that in the 18th and 19th centuries, when the prevailing criminological theories favored the imprisonment of offenders, juveniles as well as adults were imprisoned.

Among historical precedents which led to the birth of the concept of juvenile delinquency, two deserve brief mention. Of significance in the first place are the early attempts made to separate juveniles as a different category from adults in connection with imprisonment. Thus, as early as 1704, Pope Clement XI founded in Rome a center for the correction of "profligate youth" so that they might be taught to become useful citizens. In 1756, the Marine Society of England established a special institution for the reforma-

tion of juvenile offenders, and other institutions, some of which were known as "ragged schools," (q.v.) soon followed. By 1825 New York City had established a "house of refuge" for juveniles which was the predecessor of the American reformatory school.

The full force of this movement, however, was not felt until 1854 when the Reformatory Schools Act was passed in England, this legislative recognition giving the necessary impetus for the spread of the idea of separate institutional treatment for juveniles. By the end of the 19th century, a substantial number of reformatory schools had been established in a number of countries; under British administration, for example, Burma, India, and what is now Pakistan had a Reformatory Schools Act in 1870 and established special juvenile institutions. The development of this movement was coincident with the humanitarian outlook of the Western world at that time, and it emphasized that juveniles should be reformed instead of punished.

Concurrent with this development, attention was drawn to the need for separate procedures in the adjudication of juvenile cases by the courts. It had been a long-standing practice in Anglo-Saxon law to accept the proposition that children under a certain age, usually seven years, were incapable of distinguishing whether their actions were right or wrong. Associated with this concept was the rebuttable presumption that persons between the ages of 7 and 14 years could discern the import of their actions. The courts decided this issue, and it was understandably difficult for them to define with precision what constituted discernment. With the growing acceptance of the idea of reforming juvenile offenders, there was a stage when the courts resorted to reformatory treatment for those juveniles who appeared to be capable of reform because they did not seem to be unduly vicious, on the presumption that they had acted without discernment. Those appearing to be depraved and incapable of reform, on the other hand, were sentenced to ordinary prisons on grounds that they had acted with discernment. Thus, the offense committed by a juvenile was beginning to play a less important role than the judgment of whether he was suitable for reformatory treatment. As a result of this, the need for specialized court procedures came to be increasingly felt.

Early efforts to establish separate adjudication procedures in juvenile cases were known, among others, in a Swiss ordinance of 1862, and in Boston, Mass., where charges against children were heard separately in 1869. The State of South Australia also experimented with such procedures before the end of the 19th century. It was not until July 1, 1899, however, that the first juvenile court in the world was established as a result of a juvenile court law prepared by a committee of the Chicago Bar Association. The formulators of this law advocated that the state should provide adequate measures for the care and treatment of juvenile delinquents instead of regarding them as common criminals. The importance of this approach was that the principles which were associated with chancery practice (particularly *parens patriae*, the idea of state responsibility for looking after socially handicapped children) came into what had previously been the realm of purely criminal procedure. The juvenile court movement has spread throughout the world since that time.

Definition.—Any discussion of juvenile delinquency raises two fundamental questions: Who are the juveniles? and What constitutes delinquency? In answer to the first question, the most common criterion employed is chronological age. The vast majority of the laws dealing with juvenile delinquency throughout the world provide an age limit beyond which special procedures and measures meant for juveniles are inapplicable. This age limit varies not only from one country to another, but also from state to state within a country as in the case of the United States. In Europe, the variations range from 16 years in Belgium to 21 years in Sweden. The majority of European countries, however, fix the age limit at 18 years. Jurisdictions in the United States have fixed the limit with considerable variation, ranging from 16 years in states like New York and Connecticut to 21 years in such states as California and Arkansas. Here again the majority of states have fixed it at 18 years. In Latin America, the range is from 14 years in Haiti to 20 years in Chile, with the majority of the republics fixing it at 18 years. The limit in Asia ranges from 15 years in some countries like Syria and Lebanon and most of the Indian states to 20 years in Japan.

In addition to the upper age limit, most laws employ a lower age limit below which criminal responsibility, in accordance with common law tradition, cannot be attributed to juveniles. The majority of countries throughout the world accept either seven or eight years as the lower age limit, often in conjunction with the rebuttable presumption concerning discernment, although there are some countries where it is higher, apparently the highest being found in Finland where the lower age limit is 16 years.

The second question as to what constitutes delinquency is more difficult to answer. The word *delinquency* is derived from the Latin *delinquere* meaning "neglect," and it may be interpreted in broad terms as neglect on the part of juveniles to conform to the accepted standards of behavior in a given society. There is general agreement, among the vast majority of the countries of the world, that an antisocial act which in their respective laws is defined as a criminal offense constitutes delinquency when committed by a juvenile. Beyond this, however, various meanings are attributed to the term. In the United States, for example, there are over 30 forms of behavior which are regarded as delinquency. They include incorrigibility, addiction to drugs, disorderliness, vagrancy, and sexual irregularities, to mention just a few. What is delinquent behavior in one state may not be so in another. According to English common law a boy under the age of 14 years is presumed to be incapable of having sexual intercourse and he cannot, therefore, be found guilty of a sex offense in England. In the United States he may be considered a delinquent. The trend in the mid-20th century is toward the broadening of the concept of delinquency with the consequence that it cannot be defined with any precision. The apparent increase in juvenile delinquency is due partly to the recognition of a greater number of behavior forms as delinquent. This is true not only for the highly industrialized and more developed countries but also for the so-called less developed countries where detribalization and shift of population to urban areas have brought juveniles face to face with impersonal law, which regards

delinquent certain forms of behavior which were customarily considered acceptable conduct in the juvenile's previous environment.

Juvenile Courts.—The juvenile court is the pivot around which revolves the machinery for the treatment of juvenile delinquents. Juvenile courts are found in every region of the world, but in the Far East and the Middle East the movement to organize them is still in its early beginnings. Even where they exist in considerable numbers, the tendency is to have them in the bigger cities, and adequate expansion of this movement is yet to come.

The individualized justice which juvenile courts are supposed to offer cannot be obtained without adequate and appropriate services to achieve this end. Such services are required from the time that a juvenile has committed an offense to the time when he is returned to the community.

The arrest of juvenile delinquents is usually carried out by the ordinary police in most countries of the world. In this connection, however, administrative or legislative provisions are often quite specific that (1) the processing of juvenile cases should be undertaken with a minimum of delay; (2) restraints such as handcuffs should be used sparingly on juveniles except in instances where the consideration of public safety justifies such procedures; and (3) the fact of a juvenile's arrest should be reported as soon as possible to his parents or guardians and to the local probation officer. It is not possible, however, to adhere strictly to these provisions in some countries, and the need has been increasingly felt for employing police who are specially trained to deal with juvenile cases. There is a growing tendency to use special police in juvenile cases in many countries of the world. A large number of the cities in the United States have established special divisions or bureaus in their police departments, such as the Juvenile Aid Bureau of New York City. In Europe, special juvenile police are found in the cities of such countries as Austria, Belgium, France, the Netherlands, the Scandinavian countries, and the United Kingdom. In some cases, women police perform duties connected with juvenile cases. In Latin America there are juvenile police in Argentina, Brazil, and Mexico. With regard to Asia, special juvenile police units are found in Manila, the Philippines, the State of Bombay in India, and in Japan. The functions of special police include the examination of juvenile cases with a view to reaching a decision on whether a juvenile should be released after caution or under certain prescribed conditions, or sent up for hearing and adjudication by a juvenile court.

In the matter of keeping a juvenile under detention after his arrest prior to the disposition of his case by a court, the tendency is distinctly towards providing specialized detention facilities. Such specialized places are known variously as detention homes (United States), remand homes and remand centers (United Kingdom), and reception homes or depots (Australia and New Zealand). Two purposes are served by having special facilities: (1) a juvenile is segregated from adult offenders, thus minimizing the dangers of contamination, and (2) an opportunity is provided to study the social background and psychological attributes of the juvenile. It should be noted, however, that some juveniles are still sent to adult detention facilities in most countries. On

the one hand, juveniles who have committed serious offenses or who, in the opinion of the arresting authorities, are unruly or dangerous are normally sent to adult facilities for reasons of public safety. On the other hand, many countries still lack special detention facilities, and even when they are available they are usually concentrated in the cities. In the United States, for example, juveniles are still sent to adult detention places for reasons other than that of public safety.

Very often, special detention homes make provisions for the observation of juveniles through social, psychological, and psychiatric services. Such observation usually occurs before the court has reached a decision on measures of treatment to be applied to a juvenile, as ideally the court should use the results of the observation for its decision. In the United Kingdom, however, there are classifying homes which conduct observation on juveniles after a court has ordered institutionalization with a view to finding the most suitable institution for this purpose.

The juvenile court itself requires an adequate and qualified staff so that effective measures for the rehabilitation of juvenile delinquents can be applied. Unfortunately, a large proportion of the juvenile court judges in many countries are still not specialists in the juvenile field, but serve concurrently as judges of adult courts. There must also be sufficient staff to conduct social investigations of juvenile cases.

Throughout the world, the procedures of juvenile courts are marked by an informal atmosphere achieved through closed hearings, the presence of police in mufti, and generally by dispensing with legalistic formalities. Where British precedents are followed, the use of the words "conviction" and "guilty" is avoided. Information detrimental to the juvenile concerned is usually not allowed to be published by the press.

Some countries, notably the Scandinavian, do not employ juvenile courts. They use instead administrative bodies known variously as child welfare boards or child welfare committees, in which laymen and specialists participate, to deal with cases of juvenile delinquency. In these countries, the prosecuting authorities decide whether a juvenile should be considered by an ordinary court or a child welfare committee. The decision is usually based on the seriousness of the offense involved. Not being courts, the child welfare committees achieve a maximum of informality in dealing with juvenile cases and have the advantage of avoiding unnecessary traumatic experiences for the juveniles who are concerned.

Treatment of Juvenile Offenders.—One of the most frequent measures of treatment applied by juvenile courts is probation. A juvenile delinquent is placed under the supervision of a probation officer whose duties are to befriend and assist him with a view to his rehabilitation. Probation is essentially social case work because it is the task of the probation officer to find regular employment for his charge and assist in his family problems whenever necessary. Trained probation personnel is a prerequisite for the success of this measure. In most countries where probation is used for juveniles, the tendency is to employ trained personnel on a full-time salaried basis. In England, for example, the Home Office offers a training course for probation officers. In the State of Victoria in Australia, on the

other hand, probation officers are volunteers selected from all walks of life.

In some European countries such as France and Belgium, a measure analogous to probation known as "supervised freedom" is practiced. The tendency in these countries is to employ full-time personnel although in the past volunteers have played a more important role.

Other measures of treatment in freedom include foster-home placement for those juveniles who have no homes or whose homes are inadequate. In spite of the emphasis on rehabilitation in the treatment of juvenile delinquents, many countries still employ measures such as corporal punishment, the rehabilitative value of which is doubtful.

Next to probation, juveniles are most often sent to institutions for rehabilitation. The modern juvenile institution is a greatly improved version of the early reformatory school, but it is a far cry from the ideal establishment which sends back to the community a rehabilitated juvenile whose adjustment to normal living conditions is easy and smooth. Juvenile institutions offer agricultural or industrial training to juveniles and usually provide opportunities for the development of social responsibility in their inmates. There is a tendency to have the cottage type of establishment in preference to the congregate type of institution so that juveniles may be classified according to different criteria, and individualized treatment given. It has also been realized that individualized treatment does not consist in treating a juvenile apart from other human beings but in relation to them. In the United States, the State of New Jersey has led the way in experimenting with group therapy methods in the rehabilitation of juvenile offenders.

In view of the fact that the institutional setting offers an artificial atmosphere which in many instances is unrelated to actual conditions prevailing in the outside community, aftercare is a very important element in the treatment process. Comparatively speaking, aftercare services throughout the world are underdeveloped. In this connection, England and some states of India, such as Bombay and Madras, have experimented with aftercare hostels where juveniles are placed prior to their final release. Such hostels offer a less abrupt adjustment for juveniles in returning to their communities. Otherwise, aftercare usually means supervision by a parole officer. As in probation, the importance of having well-qualified supervisory personnel in this respect cannot be overemphasized.

Prevention of Juvenile Delinquency.—On the basis of the fact that the number of juveniles passing through juvenile courts in the United States increased from 300,000 in 1948 to 435,000 in 1953, the Children's Bureau has estimated that over 750,000 juveniles will be dealt with annually by the juvenile courts in 1960. In this situation, even if treatment services are improved quantitatively as well as qualitatively, the need for preventing juvenile delinquency is more vital than ever. Prevention is of two kinds: general prevention by the provision of social welfare measures including adequate housing, education, and so on, for the healthy growth and develop-

ment of children; and specific prevention by the provision of detection and treatment services for juveniles who develop behavior problems which may result in delinquency if left untreated. It is commonly accepted by the authorities in the field of juvenile delinquency that general prevention, however desirable, cannot by itself automatically solve the problem of juvenile delinquency. Specific measures, therefore, are essential in any preventive policy and program. Such measures consist of child and family guidance services and an educational system in which teachers are alert to the problems of their students. In the United States, the most promising type of preventive program seems to be community coordinating councils. Such councils are constituted by community welfare agencies whose activities have a bearing on child welfare and juvenile delinquency, and they coordinate the activities of the component organizations so that unnecessary overlapping and duplication of effort can be avoided. Instead of being sent to the courts, juveniles are referred to appropriate agencies for treatment when they present behavior problems. The councils also plan recreational activities for juveniles in the communities concerned.

The causes of juvenile delinquency are multiple, and while research undertaken by such authorities as Eleanor and Sheldon Glueck in the United States has contributed to a better understanding of the factors involved, further research is needed. The effectiveness of preventive programs cannot be judged until more knowledge is gained with respect to the causes of delinquent behavior. Research must go hand in hand with the organization of preventive programs so that the latter can be improved as greater knowledge is gained.

International Action.—Since 1948 the United Nations, taking into consideration that juvenile delinquency is causing concern in many countries of the world, has been implementing a program of international policy and action on juvenile delinquency. Apart from publishing comprehensive studies on the problem in different regions of the world, the organization has also given requesting governments technical assistance in the form of regional seminars, experts, fellowships, and scholarships.

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RICHARD PAW U.

JUXON, jūk's'n, William, English prelate: b. Chichester, Sussex, England, 1582; d. London, June 4, 1663. He was bishop of London from 1633 to 1649 and attended Charles I on the scaffold in the latter year. At the Restoration he was made archbishop of Canterbury.



K The 11th letter of the English alphabet, and in the western European alphabets generally that have *j* (inserted after *i*), but the 10th letter in the Latin alphabet (which had dropped *θ* before *i*). Actually the letter is superfluous in English, since it carries no value that is not also borne by *c*. Yet the English written language has *k* not only finally (*hulk*) and medially (*akimbo*, *ankle*, *token*, *awkward*, *pumpkin*), but also initially, especially in a large number of borrowed words such as *Kaaba* (Arabic *ka'bah*, "building," from *ka'b*, "cube"), *kaiser* (German), *kaleidoscope* (Greek), *kaolin* (Chinese *kao-ling*, "high mountain," especially one which was an important source of China clay), *kolinsky* (Russian, from the local name *Kola*), *kumiss* (Tatar, "fermented mare's milk"), *kyle* (Gaelic *caol*, "strait, narrow channel," between the sea and a lake), *kraken* (Norwegian, a legendary sea monster). Occasionally it is useful to distinguish two different words, such as *celt*, "axhead" (Latin *celtis*, "chisel") but *Keltic* (κελτικός), though the latter spelling doubtless has been influenced by German 19th century scholarship. However, the number of words that show initial *k* is small in English compared with those that begin with *c*. In German, on the other hand, it is *k* that is favored for native words, the writing *c* (frequently pronounced like *s*, that is, *ts*) being reserved for borrowed words, for example, *Cicero* (tsi'tsero), *Citat*, *Concept*; whence the writing with *s* as in *Zentrum* (as well as *Centrum*), *Konzept* (now more common than *Concept*). The pronunciation *ts* generally occurs before front vowels (*e*, *i*, *y*, *ö*, *ä*), but not always consistently (*Encyclopädie*, or *Enzyklopädie*, despite Greek κύκλος, the modern compound having reached the German language through French).

English shows initial *k* before *n* where *kn* is native or stands initially in words borrowed from other Germanic languages (especially Scandinavian and Dutch), though *k* is no longer pronounced, for example, *knee*, *know*, *knight*, *knit*. The *k*, which was still heard as late as the 17th century (as in modern German), usually represents an Indo-European *g* (compare *know* with Latin *gnosco*).

In Slavonic alphabets of Greek origin *k* also appears (12th in the Cyrillic alphabet, 11th in modern Russian). It is soft when followed by *i*, *e*, *ě*, *ja*, *ju*, or *b* (usually transliterated); otherwise it is hard. The Slavonic languages also have spirants that arose from an ancient *k*-sound, but these are regularly represented by distinct symbols (Old Church Slavonic *desŕb* meaning "ten"; Greek δέκα). Palatalization is frequent in English also (*kirk* in Lowland Scots, *church* in English) and hence pairs like *bake* and *batch*,

make and *match* have arisen with the alternation *k* and *tsh*.

The numerous modern English writings of the *k* sound are mentioned in the article *C*, and need only illustration here: *ck* medially and finally after old short vowels (*ticket*—but *etiquette*, properly "label," a word of Germanic origin, related to *stick*, which has reached English twice, at two different epochs, from French; *pick*, *back*). Final *ic* formerly was written *ik*, *ick*, *ique*, as well as *ic*, but modern spelling has only *ic* (*static*), except in recent loanwords like *critique* (compare *critic*). The writing *qu* appears in words taken from French (*quay*, *conquer*) and sometimes has influenced the pronunciation as well (*banquet*, *quote*; but *marquis*, *marquetry*, *marquee* still have the *k*-sound, at least in good standard usage). Words borrowed from Greek show *ch* (pronounced like *k* in English): *archangel*, *chaos*, *epoch*.

Though *k* may vary phonetically, according to the position of the accompanying vowels in the mouth, such distinctions are merely phonetic, not phonematic. The same is true of the variations of aspirated *k* (as in *kin*), unaspirated (as in *skin*), or unreleased (as in *doctor*). Distinctions of juncture, as well as of the length of the *k*-sound, mark off *black cat* and the like from *black at*, as they do in *night rate*, *nirate*, and *dye trade*.

The original Semitic symbol for *k* (11th in order, though the corresponding symbol is now 14th in the South Semitic Ethiopic, 22d in Arabic), like its name (Hebrew *kaph*, whence Greek *kappa*), is said to have denoted "bent hand"; but little trace remains of this, even in the oldest known forms of the letters (Cretan *Υ*, Moabite *Υ*); and *κ* or *Κ* is quite ancient. The practice, common in Italic alphabets, of writing the thorns in curved form (*κ* and *ϰ*) and then detached from the upright stroke (*ϰ*) contributed to the identification of *K* and *C* in the Latin alphabet; the former was retained only in a few words of religious or legal significance, which were usually abbreviated, as *K.* or *Kal.* for *Kalendae* (the calendar being controlled by the priests), *k(alumniae)*, *k(awsa)*, and the proper name *K(aeso)*.

For bibliography see the article *A*. See also *ALPHABET*.

JOSHUA WHATMOUGH.

K AS A SYMBOL. It has numerous significations, according to the connection in which it is used. Thus, for instance, *K* in chemistry stands for kalium or potassium. In heraldry and titular honors it stands for knight, as for example, *K.C.B.*, Knight Commander of the Bath; *K.G.*, Knight of the Garter. In the expression

O. K. the K stands for correct or right, in sense at least, whatever be the derivation of the expression itself. K2 is a sign sometimes used to represent Mount Godwin Austen, while Ka (q.v.), in Egyptian mythology, represents the spirit of the dead. In the Middle Ages, K was used with Roman numerals as a symbol for the number 250, and K as a symbol for 250,000.

KA, *kä*, the spirit of the dead, the second self, which formed a very important part of the religious belief of the ancient Egyptians. Each Egyptian was thought to possess his own particular *ka*, which constituted the spirit of his life in the future world where all the inhabitants, whether earthborn or heavenborn, possessed each his *ka*. To this rule not even the gods were exempt, the Creator of the universe and of men being as much dependent upon "his second self" as earthborn mortals. Every human being, while on earth, according to Egyptian belief, possessed two spirit beings, the *ka*, which remained in the future world, and the *ba*, which accompanied the body on earth and deserted it at death. The *ba* was thought to be the earthly being or soul of man; and the root form of the word and its signification are suggestively like the form and use of the Indo-European root word for being or to be.

The Egyptians carried this idea of relation of time to existence to a conclusion that legitimately followed their belief in the divine character of their sovereigns. They represented their king as possessing, while on earth, both a *ba* and a *ka*, ever present in his person. Being of earth, the sovereign must, while on earth, possess his *ba*, or second earthly person; but being, at the same time, the heavenborn child and the representative upon earth of the divine power, and not having relinquished his heavenly or future-world estate, he necessarily also had to possess his *ka*, without which he could not retain his future world connections.

The kings of Egypt possessed several names, one of which was known as their "ka" or "banner" name. This signified that they were the representatives on earth of Horus. Every Egyptian sovereign prepared his own monumental tomb and provided for the perpetual performance, at stated periods, in his Ka chapel, of mortuary services supposed to be necessary to maintain the power and influence of the deceased in the future world, and perhaps even his spiritual existence. Nobles and people of wealth generally followed the example of the king, while similar services were performed for the deceased of humble rank by his direct descendants. Thus it was a great misfortune for an Egyptian, in the lower walks of life, to die without leaving a son behind him to perform for him these pious offices.

The *ka* seems to have, in the popular belief, descended from the heavenly regions to become the guardian companion through life of certain favored beings who were neither gods nor sovereigns, though they would appear to have acquired godlike qualities. They seem to have been the forerunners of the saints in the more modern religions, to whom were accorded preferential places in the future world on account of their earthly virtues and divine accomplishments.

The mystical and imaginative Egyptian doctrine of the *ka* and its interest in the affairs of the individual together with its relation to the *ba* exercised a strong influence on early Christian

religious thought and the development of the religious dogma of the soul. John's description of the Holy Ghost might have been the last Egyptian definition of the *ka* as the indwelling divine principle whose presence saved the soul. This is essentially the doctrine of the *logos* in its highest development. Both the *logos* and the *ka* came ultimately to signify a saving, divine principle. From this to the conception of the *ka* in mortal principle or soul was but a step, which had been already taken in Egypt before Christianity had put in its appearance. See also BOO OF THE DEAD; EGYPTIAN RELIGION AND SOCIOLOGY.

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KAABA, *kä'bä*, **CAABA**, or **KAABEI** properly a quadrangular structure, but a name particularly applied to a celebrated temple at Mecca. The name is especially given to a small oratory in the temple in the center of a large space surrounded by galleries. It is an irregular cube, 40 feet long, 33 feet in width, and about 50 feet in height. This is the point toward which the prayers of all Moslems are directed.

In a corner (the southeast) fixed at a height of five feet from the ground is the famous black stone, believed to be one of the precious stones of paradise, and to have been brought by the angel Gabriel to Abraham, when he was constructing the Kaaba. Although its authenticity is very much in doubt (it has been stolen, burned and broken), it is an object of profound veneration to the pilgrims who resort to the sacred city.

The temple of the Kaaba is older than the time of Mohammed, previous to whom it was the Arab pantheon, containing the nation's idols. The prophet destroyed the idols, but permitted the most characteristic form of worship to remain—the tawaf, or sevenfold circuit of the sanctuary. In the prophet's day the outer walls were covered by a veil of striped cloth. A broad band of these coverings is embroidered with inscriptions from the Koran. The door as well as the post and lintel is of gilt silver. Modern description of the interior do not always tally, a difference probably due to the difficulty of observation. Thirteen silver lamps hang between the two pillars. A silver-plated door opens on a staircase leading to the roof. The caliph Mahdi spent lavishly on the decorations and in beautifying the place of prayer around "the Ancient House." The temple was completely restored in the 16th century. See also MECCA.

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KAALA, *kä-ä'lä*, the highest peak on Oahu, Hawaiian Islands. It is part of the Waialeale Range, and attains an altitude of 4,030 feet.

KAALUND, kó'lōon, Hans Vilhelm, Danish poet: b. Copenhagen, June 23, 1818; d. there, April 27, 1885. He studied painting and sculpture, and wrote poetry at the same time. But his success in the latter so far surpassed his achievements in the former that he decided in 1838 to make literature his life work. For 20 years, however, he published poems with just enough success to warrant his continuing with the prospect of ultimately achieving the success he so much desired and had so earnestly worked for. In 1858 a collection of his best poems *Et Foraar (spring)* written to the date of publication, was received with warmer welcome than had been given to previous editions of his works. In 1875 he published a drama *Fulyia*; and two years later, another volume of poems, *En Efteraar (A Second Spring)*.

KA'B IBN-ZUHAIR, kăb'ib-'n-zōō-hīr', an Arabian poet contemporary with Mohammed, and thus flourished in the 7th century. He was the son of a poet of some note, Zuhair ibn Abi Sulma' a ul-Muzani. All the members of the family became converts to the preaching of Mohammed, except Ka'b, who was finally outlawed on account of his hostility to the latter. Later on he became reconciled to the prophet, with whom he seems to have become a favorite. One of the most famous of Ka'b's poems is a eulogy on Mohammed, beginning *Bānat Su'ad*, composed in 630 A.D.

KABALE UND LIEBE, one of the earliest dramas of Johann C. F. von Schiller, published in 1784. It has been translated into English under the title of *Intrigue and Love*.

KABARDINIAN AUTONOMOUS SOVIET SOCIALIST REPUBLIC, autonomous republic, Soviet Russia, Europe, situated on the northern slopes of the Caucasus Mountains, with the Georgian SSR on the south and southwest, the Cherkess Autonomous Oblast on the northwest, Stavropol Kray on the north, and the North Ossetian ASSR on the east, with an area of 4,600 square miles. The territory consists of three separate sections: the mountainous terrain in the south containing some of the highest peaks in the Caucasus Mountains—Dykh Tau (17,085 feet), Shkara Tau (17,040 feet), and Koshtan Tau (16,875 feet); the mountainous slopes of the Caucasus in the central region, with well-developed forests and livestock raising on the grassy slopes; the Kabardinian lowlands to the north, supporting the majority of the population on its fertile black earth. The last section has a favorable climate and raises wheat, maize, millet, vegetables, and hemp, and numerous orchard crops.

The land is drained by the Terek and its tributaries and is administered from the capital city of Nalchik. Industries include fiber, fruit-canning, and wine-distilling plants, flour and oil pressing mills, and starch factories. There is some mining, principally of molybdenum, in the mountainous tracts, and there is considerable lumbering and hydroelectric power development. The capital city produces food and wood products and clothing, and is a resort center, particularly for mountain climbers.

Ethnically the land before 1943 was divided into two principal nationalities, the Kabardian (forming about 60 per cent of the population) and the Balkarians (16 per cent), both Mohammedan; however, since 1943 the Balkarians have

been deprived of their nationality and resettled for having supposedly been sympathetic toward the Germans during World War II. Russians and Ukrainians make up the remaining nationalities.

Under Russian rule since 1825, this district has had a swift-changing history since its formation in 1921 as the Kabardinian Autonomous Oblast in the Russian Soviet Federated Socialist Republics. The following year additional territory inhabited by the Balkarians was added and the name changed to Kabardino-Balkar Autonomous Oblast, and in 1936 the district became an autonomous republic with an area of 4,747 square miles. When the Balkarians lost their nationality in 1943, the principal Balkar district of the republic was ceded to the Georgian SSR and the name of the republic changed to its present heading. In 1944, additional territory was ceded to the North Ossetian ASSR. The republic was occupied by the Germans for a short period during World War II. Pop. (1947 est.) 300,000.

KABUL, kă'bōōl, city, Afghanistan, capital of the country and of the province of Kabul, situated at the western extremity of a spacious plain, in an angle formed by the approach of two ranges of hills, and situated (with the exception of a modern garden suburb) on the right bank of the Kabul River, which is spanned, in or near the city, by several bridges. It is a place of great strategic strength, and stands at a height of 5,895 feet above sea level. It has a delightful summer climate, but the winter is severe. Since the eighties of last century great improvements have been effected in the city, and under the enlightened rule of Abd-er-Rahman Khan (died 1901) important industries were introduced and electrical power developed under European tutelage. The city now has cotton and wool mills, a cement plant, and food processing and canning factories. Good highways have also been constructed, and a local railway has been built. The mosques are spacious and commodious and the town is an important center of trade with India and central Asia. In the way of advanced education, there are three civilian colleges and one military college here. A government mint and arsenal are also located here.

History.—Kabul has had a stirring and eventful history. It was made capital of the Mogul Empire under Baber in 1504, and for two centuries (1526–1738) was under Mohammedan rule from Delhi. It was captured by Nadir Shah in 1738, and his successor, Ahmad Shah, founded the Durrani Dynasty. The city was taken by the British in 1839, and three years later was the scene of the capitulation of British forces who, guaranteed safe conduct to the frontier, were brutally massacred, only one man out of a total of 16,000 soldiers and camp followers reaching safety. In retaliation the city was again occupied by British troops, and on evacuation partially destroyed by them. It afterward became the center of a dynastic struggle between rival claimants to the throne of Afghanistan. In 1879 the British resident and his staff were massacred, and this was followed by Gen. Frederick S. Robert's march on the city, and occupation of it for a year. Pop. (unofficial estimate) 300,000.

KABUL, a river in Afghanistan and India which rises on the southern slopes of the Kohi-Baba Range, at an altitude of 8,400 feet above sea level. It is about 360 miles in length at its

junction with the Indus at Attock, West Punjab, Pakistan. It supports considerable commerce carried on in small boats and rafts. On its shores are Kabul and Jalalabad. Its main tributaries are the Kunar and the Swat rivers.

KABYLIA, kâ-bî'li-â or kâ-bî'l'i-â, a mountainous coastal region, Algeria, in Alger and Constantine departments, and extending from the lowlands near Algiers east to the area about Philippeville. It is divided by the valley of the river Oued Soummam into two parts, Great Kabylia and Little Kabylia. The former has a dense population, namely of Berbers, subsisting off the rugged terrain, which includes the Djurdjura Range, by raising olives on the mountain slopes, and figs, wheat, tobacco, and grapes in the valleys. The chief trading city is Tizi-Ouzou and the main port is Bougie.

Little Kabylia, which includes the Babor Mountains, is Algeria's greatest producer of cork. It has deposits of lead, iron, zinc, and copper which are relatively unworked. Its main port is Djidjelli.

The natives are a fierce Berber tribe called Kabyles; their religion is Sunnite Mohammedan; and their language is their own, although they have no written script. These natives were among the last in Algeria to surrender to the French.

KACHHI, kâch'hê, or **KACH GANDAVA**, division, Pakistan, in northeastern Kalat State (now part of the States Union), Baluchistan, consisting of a dry, low-lying plain of sparse population, bounded on the north, west, and northeast by the Central Bahui Range, and having an area of 5,330 square miles.

The plain is watered by several seasonal mountain streams, including the Nari and Bolan, none of them navigable, and wheat, rice, and cotton are grown here, mostly for local consumption. Although there are no major industries save those of native handicrafts (carpets, leather goods, and palm mats), the region is noted for producing fine horses and camels.

The natives are 92 per cent Moslem and their chief villages are Lahri, Bhag, and Gandava. Pop. (1951) 86,112.

KACHIN STATE, kü-chîn', constituent unit, Union of Burma, situated in northern Upper Burma in a mountainous tropical region known as the Kachin Hills, and bordered on the north by China and Assam. The state has an area of 33,871 square miles and was formed in 1947 under the new Burmese constitution from the states of Bhamo and Myitkyina. Its fertile valleys are drained by the Mali and Nmai rivers, both headwater streams to the Irrawaddy River, and the upper reaches of the Chindwin River. The main agricultural products include rice, vegetables, opium, sugar cane, cotton, and tobacco. There are famous jade mines near Mogaung and amber is mined along the upper basin of the Chindwin.

The capital city is Myitkyina, and it and the other principal towns of Bhamo, Maingkwan, Sadon, Mogaung, and Putao are well served by a railroad from Mandalay, ample river navigation, and the Ledo Road, built during World War II under Gen. Joseph W. Stilwell's troops. It was through the Kachin Hills in 1944 that an Allied force of Chinese, American, and British

Colonial troops drove the Japanese out of Burma.

Ethnically, Kachin State has three main groups: the Thais, representing 30 per cent of the population; the Burmese, 25 per cent; and the Kachins, 20 per cent. The last people, from whom the state was named, are a fierce, warlike, Tibeto-Burmese tribe and have caused uprisings in the past (1892, 1895) that necessitated the sending of Indian troops to quell them. Nearly half of the tribe resides in another state (Shan State) and they comprise a total of over 175,000 people. They are also known as Jinghpaws or Singphos, and their raids and plundering still cause concern.

The northern part of Kachin State has a generally undefined boundary, and parts of it are still claimed by China. Pop. (1941) 427,625.

KACZKOWSKI, kâch-kôf'skî, **Zygmunt**, Polish historical writer and novelist: b. Bereznica (Galicia), March 2, 1825; d. Paris, Sept. 7, 1896. He showed himself an ardent revolutionist in the outbreak of 1848. In 1861 he was imprisoned for treasonable writings, but was liberated on his agreeing to leave the country. Going to Paris he continued his literary work there for a considerable time. After his return to Vienna he gave all his attention to literature, which was the gainer thereby.

His extensive historical studies helped to give true local color, incident, and truthfulness to his brilliant historical novels, among which are *Caton* (1851); *Bitwa o Choroszanke* (1852); and *Grob Nicczui*, 6 vols. (1853-1855). His novels of modern life include *Dziwoziona* (1855); *Murdelio* (1855); *W'nuczeta* (1855); *Bajronista* (1857); *Sodalis Marianus* (1859); *Graf Ras* (1879); and *Olbrachtowi rycerze* (1889).

KADELBURG, kâ'dêl-bôörk, **Gustav**, Austrian actor and dramatist: b. Budapest, July 26, 1851; d. Berlin, Sept. 11, 1925. Making his debut in Vienna in 1868, he went to Berlin three years later, where he remained 12 years, gaining in power and reputation, after which he returned to Vienna as stage manager of the Volks Theater only to make his way back to Berlin, where he found life more congenial. He successfully toured the United States for two seasons.

He was the author of many farces and comedies and collaborated in the writings of others and translated dramatic works from English into German.

KADESH-BARNEA, kâ'dêsh-bâr'nê-â, or **KADESH**, Palestine. The name of a place mentioned in Numbers 13:26; 20:1; and 33:36 as a stopping place for the Children of Israel on their way to Palestine. For 38 years it was the center of the activities of the budding nation. Many fateful affairs occurred here, including the death of Miriam, the sister of Moses, the serious rebellion of Korah, and the disobedience to divine command of Moses himself. From this place the spies were sent to make their survey of Palestine, and here their report was made. Then the march was resumed from this point. The exact site of Kadesh-Barnea has been the subject of much conjecture and considerable controversy. It was not until 1842 that anything like certainty was attained. Rev. John Rowland, then residing at Gaza, was directed to the spot by some Arabs. It remained for H. Clay Trumbull to establish

the correctness of this site, which he did in 1883, publishing his results in *Kadesh-Barnea* (London 1884). It is located about 50 miles south of Beer-sheba, opposite Mount Hor on the east, and the coast of Philistia about Gaza on the West.

KADIKÖY, kă-dî-kü'ê (ancient CHALCEDON), city, Turkey, situated opposite Istanbul, of which it is a district and a suburb, on the east side of the entrance to the Bosphorus on the Sea of Marmara. Kadiköy is just south of Üsküdar (Scutari) and serves as a rail terminus and a commercial center. For history see CHALCEDON. Pop. (1950) 66,540.

KADMONITES, kăd'mön-its, a Canaanite tribe whose land was promised by Jehovah to Abraham's seed (Genesis 15:19). They are thought by some to be synonymous with the Bene Qedhem (Children of the East) mentioned in Genesis 25:1-6.

KADUR, kû-dōor', district, India, in western Mysore on the Deccan Plateau; bordered on the west by the Western Ghats which rise to elevations of over 6,000 feet. Its area is 2,775 square miles. The capital is Chikmagalur (pop. 1941, 15,383). Other chief towns of the district are Tarikere and Birur. Drained principally by the Tunga and Bhadra rivers, headwaters of the Tungabhadra River, it is an important coffee growing center. There are also large cardamon, tea, and pepper estates in the western foothills. Sugarcane, millet, cotton, and coconuts are also cultivated; rice is grown on terraced farms. Forest products include bamboo and sandalwood. Kadur iron mines supply the ore for the iron and steel milling plant at Bhadravati. Pop. (1941) 358,290.

KADUR, town, India, in Kadur district, west central Mysore, 20 miles northeast of Chikmagalur, the district capital. It is a center for millet, cotton and tobacco. A handicraft is biri (cigarette) making. Pop. (1941) 4,484.

KADZHARAN, kû-ju-rän', town, USSR, in southern Armenian SSR, 15 miles west-southwest of Kafan, a rail spur terminus. In the Zangezur Range of the Lesser Caucasus at an elevation of 8,000 feet, it was developed as a mining center for copper and molybdenum ores after World War II. It has a concentrating plant. Pop. (1947) over 500.

KAECHON, kă'chün', town, Korea, in southern Pyongan Province, northern Korea, 40 miles north-northeast of Pyongyang. In a coal and iron mining area, it had an important graphite plant at the outbreak of the Korean War. Pop. (1944) 18,381.

KAEMPFERT, kēmp'fērt, Waldemar Bernhard, American editor and author: b. New York City, Sept. 23, 1877. Educated at the City College of New York (A.B. 1897) and New York University (I.L.D. 1903), Kaempfert served from 1897 to 1911 as assistant editor of the *Scientific American*, becoming in the latter year managing editor. In 1915 he became editor of the *Popular Science Monthly*, a position he held for five years. In 1927-1928 he was science editor of the *New York Times*, and after spending three years in Chicago as the director of

the Museum of Science and Industry there, he returned to his former position on the *New York Times*, where he has been since. In his daily and Sunday articles for the *Times*, he has covered everything from crystal radio sets to flying saucers. His books include *History of Astronomy* (1910); *The New Art of Flying* (1911); *Science Today and Tomorrow* (1939); and he has edited *A Popular History of American Invention* (1924).

KAESONG, kă'i-sōng', or **KAIJO**, kî-jō (formerly SONGDO), city, Korea, in Kyonggido Province (formerly Keiki Province), about 45 miles north of Seoul (Keijo). An ancient town it is noted chiefly for its production of ginseng roots, a dubious medicinal herb highly prized in the Orient. Under Japanese rule and home rule, the production of ginseng was a government monopoly, running into millions of dollars' worth a year. The other product noteworthy of Kaesong is its celadon porcelain ware, a sea green porcelain treasured by connoisseurs.

Kaesong was made the capital of Korea in 917 by Wanggon, the founder of the Koryu Dynasty, and remained in this capacity until 1392. During the 20th century, the town assumed new importance. Its position on the 38th parallel during the Korean War (1950) made it a bone of contention between Communist and United Nations forces and the city passed back and forth several times between the two armies. Here were held in 1951 the first truce conferences of the war. Pop. (1949) 88,708.

KAFA, or **KAFFA**, kă'fä (Ital. CAFFA), province, Ethiopia, in the southwestern part of the country. It is mountainous for the most part and covered with thick forests in the higher regions. The capital is Jimma, and other important cities include Bonga, Jiran, and Maji. The province extends west of the Omo River and borders on the Anglo-Egyptian Sudan. Its forested mountain region, including the Enarea district, contains elevations rising to from 5,000 to 11,000 feet. To the south are lowlands near Lake Rudolf. Drainage is by the Gojab, Gibbe, and Kibish rivers.

Chief products of Kafa are coffee, cereals, hides, and beeswax. Most of the coffee crop is harvested from indigenous wild trees. There are iron mines at the village of Omo, 40 miles east-southeast of Jimma.

Formerly an independent kingdom, it was Christianized in the 16th century. During the 18th and early 19th centuries it rivaled Ethiopia, which incorporated it in 1897. The slave trade persisted well into the 20th century. The population is Hamitic.

KAFFA, kă'fä. See FEODOSIYA.

KAFFRARIA, kă-frâr'i-ä (officially called TRANSKEIAN TERRITORIES), region, South Africa, in the province of the Cape of Good Hope east of the Great Kei River. It became part of Cape Colony in 1865 and now includes the districts of Griqualand East, Transkei, Pondoland, and Tembuland, comprising a total area of 18,310 square miles, and having a population (1946) of 1,250,811. Its natives are mostly Kaffirs, members of the Bantu race, and like most of the natives of the southern and western country of Africa, their main industries are the raising of cattle and grain.

KAFIR-BREAD, *kāf'ér-brēd*, the edible spongy pith of the stems and cones of any of several species of cycads (q.v.) growing in South Africa, especially *Encephalartos caffer*. This substance resembles sago in its farinaceous character.

KAFIR-CORN, Indian millet (*Sorghum vulgare*) extensively cultivated by the half-civilized negroes of south-central Africa. It is called kaoliang by the Chinese. See GRASSES; MILLET.

KAFIRISTAN, *kā-fē-rīs-tān'* (Persian, "land of the infidels"), a region of central Asia in northeast Afghanistan, on the south slope of the Hindu Kush, and having as its southern boundary the Kabul River. Formerly the name was vaguely given to a much greater territory; it is now restricted to a country with an area of about 5,000 square miles, nominally under the government of the Amir of Afghanistan, but virtually belonging to an independent people. In the northern portion, which is mountainous, the surface is rugged and broken; in the south the land is mostly level or moderately undulating. Much of the soil has a high degree of fertility and is adapted, especially in the valleys, to the cultivation of fruits and cereals of various kinds. Grapes are largely produced, from which is made an excellent wine. They are said to be skilful workers in wood and metals, but their main pursuits are agriculture and stock-raising. In features and complexion, as well as in beliefs, manners and customs, they differ much from neighboring tribes. They appear to be of Aryan extraction and claim descent from soldiers of Alexander the Great. They are not without dissensions in the various tribal divisions in which they exist, but their isolation in a region of natural strength has enabled them to maintain a kind of political unity despite internal discords, as well as to preserve their independence against the invasions of other tribes. They have no literature, and in their language appear mingled traits of the Indo-Iranian dialects in their Iranian and Indian divisions. In religion they withstood Mohammedan influences until in 1895 they became subjects of Afghanistan, when Mohammedanism was imposed upon them outwardly; but they cling with fondness to their old superstitious beliefs. Consult Biddulph, 'Tribes of the Hindu Kush' (1880); Leitner, 'Kafiristan' (1881); McNair, 'A Visit to Kafiristan' (Proc. Royal Geog. Soc. 1884); Robertson, 'Kafirs of the Hindu Kush' (1896).

KAFIRS, *kāf'érz*, **KAFFIRS**, **KAFFRES**, or **CAFFRES** (from Arabic *Kafir*, infidel or unbeliever), the principal race inhabiting south-eastern Africa, a branch of the great Bantu family. The name is now chiefly restricted to the tribes occupying the coast districts between Cape Colony and Delagoa Bay. They differ from the negroes in the shape of the head, being more like that of Europeans; in the high nose, frizzled hair and brown complexion, which becomes lighter in shade in the tribes of the more southern districts. They are a tall, muscular race, the average height being from 5 feet 9 inches to 5 feet 11 inches, and frugal and simple in their habits. Their chief occupation is raising and tending cattle, and hunting; they are also employed in the mining industry;

garden and field work is mainly performed by women. They are of a peaceful disposition, but in times of war they display considerable bravery, tactical skill and dexterity in the handling of their assagais or spears, shields and clubs, as has been shown in their engagements with the British forces. There are several distinct branches or families of Kafirs, but the tribes which recent events have specially brought to the front are the Pondos, the Fingoes, the Zulus and the Swazi. Kafirs, especially of the Zulu tribe, are distributed in large numbers over Natal and Cape Colony, and have become to some extent civilized. There were frequent wars between them and the Dutch and British.

KAGA, *kā'gā*, or **KASHU**, province in the west of the Japanese island of Honshū, and forming a part of the ken of Ishikawa. It is a place of very considerable industry, which embraces the manufacture of silk yarns and goods, inlaid and other bronzes of very beautiful designs, Kaga porcelains and many other distinctly native products. Kanazawa, the capital of Kaga, which has a population of about 147,000, is situated five miles inland from its port, Takama, a place of considerable shipping activity.

KAGOSHIMA, *kā'gō-shē'mā*, Japan, a city in the island of Kyūshū, capital of Satsuma province and of the prefectural ken of the same name, on the northwest shore of Kagoshima Bay. The town is well built and is an important industrial centre with a considerable export trade. The celebrated Satsuma porcelain is manufactured in suburban Tanoura. Kagoshima was the feudal seat of the powerful Shimadzu daimios, and in 1863 was bombarded and destroyed by the British, owing to the murder of an Englishman; the reigning daimio refusing satisfaction. Here in 1877 Saigō (q.v.) set up the standard of rebellion, and here also he was overwhelmingly defeated a few months later. A great disaster took place on 12 Jan. 1914, when the volcano of Takurajima, situated on a small island directly facing the city, after being quiescent for 130 years, burst into flame, rendering 100,000 people homeless and compelling the inhabitants of Kagoshima temporarily to vacate the city. Pop. 182,000.

KAGU, *kā'gōo*, the native name of the remarkable bird (*Rhinoceros jubatus*) peculiar to New Caledonia, where it was discovered only in 1860 and is now rapidly disappearing. It is the only species of a distinct family most nearly related to the sun-bitterns. The kagu is about the size of a domestic fowl, with short wings, rather long legs, a ralliform beak and a long crest. When the wings are folded, the colors are mottled gray, the wings and tail barred with a darker shade; but when they are spread the wings are seen to be barred and spotted with white and black arranged in a conspicuous pattern. The kagu is noteworthy for the extraordinary dances and antics which it performs.

KAGUAN, *kā-goo-ān'*. See COLUGO.

KAHLENBERG, *kā'lēn-bērg*, Louis, American chemist: b. Two Rivers, Wis., 27 Jan. 1870; d. Sarasota, Fla., 18 March 1941. He was educated at the universities of Wisconsin and Leipzig, and from 1895 was a member of the University of Wisconsin faculty, as instructor

assistant professor and professor of physical chemistry, and after 1907 as professor of chemistry. From 1908 to 1919 he was chairman of the chemical department at the university. He published *Laboratory Exercises in General Chemistry* (1907); *Outlines of Chemistry* (1909); *Qualitative Chemical Analysis* (with J. H. Walton, 1911); *Chemistry and Its Relations to Daily Life* (with E. B. Hart, 1914).

KAHN, kân, Gustave, French poet, novelist, and literary critic: b. Metz, Dec. 31, 1859; d. Paris, Sept. 4, 1936. During his school days he began contributing poems, short stories, sketches and reviews to the newspapers and journals, and thus he continued actively from 1880 on. He took a trip to Africa of which he made good literary use; and on his return to France in 1886, he joined hands with Jean Moréas and Paul Adam founding *Le Symboliste* and *La Vogue*. From this time on he took a very active part in the Symbolistic movement of which he became, in a sense, the most active leader. With Catulle Mendès and others he organized, in 1897, the "Matinées of poets," with the avowed object of encouraging the younger symbolistic writers to become still more symbolistic. These matinées were held successively at the Odéon, Antoine and Sarah Bernhardt theaters.

Kahn was largely interested in the *vers libre* movement, and he has been put forward as the inventor of this form of poetry which has been so much abused, especially in the United States; and which has consequently borne such notoriously bad fruit. This claim, however, has been strenuously contested. There is something attractive about much of the symbolistic *vers libre* of Kahn; but the brood that he and his symbolistic followers have encouraged in the journals and reviews under their control or at their disposition, have proved scarcely worth the rearing, since most of them are compelled to limp through their literary life in a manner painful to themselves and to their readers. In recognition of his services to literature Kahn was made an officer of the Legion of Honor. Among his published works are the books of poems *Les palais nomades* (1887); *Chansons d'amant* (1891); *Premiers poèmes* and *Le livre d'images* (1897), often called his best volumes; and *Les fleurs de passion* (1900). His works of fiction and criticism are *Le roi fou* (1895); *L'Esthétique de la rue* (1901); *L'Adultère sentimental* (1902); *Symbolistes et técadents* (1902); *Boucher* (1909); and *Ch. Baudelaire* (1928).

KAHN, kân, Otto Hermann, American banker and promoter of opera: b. Mannheim, Germany, Feb. 21, 1867; d. New York City, March 29, 1934. He came to the United States in 1893 to the banking firm of Speyer and Company, after five years in the Deutsche Bank branch in London, and he joined Kuhn, Loeb and Company four years later. There he soon became prominent in railroad and corporation finances.

Of a strong musical disposition he long took a very prominent part in the encouragement of grand opera in this country. He was president and chairman of the board of directors of the Metropolitan Opera Company; founder and vice president of the Chicago Grand Opera Company; honorary director of the Royal Opera, Covent Garden, London; and vice president of the Philharmonic Orchestra Society.

KAHOKA, kâ-hô'kâ, city, Missouri, and Clark County seat, 20 miles west of Keokuk, Iowa, on the Chicago, Burlington and Quincy Railroad. In the midst of a dairy farming and stock raising country, it makes principally cheese and pickles. Wheat, oats, and corn are grown in the surrounding region and shipped from the city. Kahoka is under mayor and council government, and its water supply system is municipally owned. There is a public library. Kahoka was named after an Indian chief of the early days. Pop. (1950) 1,847.

KAIANIAN (Persian *kai*, king), an ancient Iranian dynasty belonging to the early days of the history of the country. It bridges over the semihistorical, semitradeional, and semimythical period extending between the shadowy mythical age of Iran and the time when the country emerges into the light of formal history and loses itself in the later Archaemenidae sovereignty. According to a Persian account, which is probably more mythical than historical the dynastic Kaianians began with the establishment of the throne of Kai Kobadh (Kobad) by the great legendary Persian hero, Zoh. All the succeeding members of this royal family bore the title "kai" thus giving rise to their titular dynastic designation. The kaianian rule came to an end with the reign of Cyrus, founder of a united Persia in the 6th century B.C., after a little less than 380 years' duration, if the semilegendary records on the case are to be accepted as authoritative.

Throughout this long period certain names stand out so prominently that they have given their titles to families or dynasties; as seems to have been the case in early Biblical chronological records. Thus Kai Loraspi is gravely recorded to have reigned 120 years; and other Kaianian sovereigns are credited with like unnatural age. It was under the last of these kings, Kai Vish-tasp, that Zoroaster lived and propagated his religion.

KAIETEUR FALLS, kî'ê-tôor', a famous waterfall in British Guiana, on the Potaro River, a tributary of the Essequibo, 100 miles southwest of Bartica. It was discovered in 1870 by Barrington Brown. Its total height is over 800 feet, and the sheer descent of the water is 741 feet, the width of the hard rock over which it plunges being 350 feet. The water has worn a great cavern in the softer underlying layers, and against the dark background thus formed the whiteness of the spray is contrasted with magical effects. The scenery about this great waterfall enhances its beauty and grandeur and makes it a favorite tourist spot.

KAIFENG, kî'fûng', city, China, capital of the province of Honan, 340 miles northwest of Nanking, and 11 miles distant from the Hwang Ho or Yellow River. It was the capital city of China from 907 to 1127, coming first under the Five Dynasties and then under the Northern Sung Dynasty, and was then known as PIEN-CHING. The city was held by the Japanese during the Sino-Japanese War from 1938 to 1945, and in 1948 fell to the Chinese Communists. Kaifeng has several times suffered disaster by flood from the Hwang Ho, by earthquake, and by fire.

Kaifeng is a station on the Hankow-Peking Railway. It has a large commercial trade with

the interior. A colony of Jews settled here about 1163 A.D. and for hundreds of years existed as a separate group, but lost its identity in a city that was predominantly Mohammedan. The city was taken by assault in the Taiping rebellion of 1853. Pop. (1936) 224,800.

KAILAS, kī-lās', mountain range, southwestern Tibet, rising to an elevation of 23,165 feet, and containing sources of the Brahmaputra, Indus, and Sutlej rivers. It refers also to cluster of peaks in central Kailas range, particularly one sacred to the Hindus as the abode of the deity Siva, and located north of Lake Manasarovar.

KAILASA, kī-lā'sā, famous Hindu rock temple erected (probably 10th century A.D.) at the village of Ellora, near Aurangabad, India. The structure comprises an entrance corridor of 137 by 88 feet, leading to the sanctuary or main chamber of 244 by 137 feet. Another room, 100 by 56 feet, forming the temple proper, rises to the height of 90 feet in a magnificent dome which is supported by four rows of handsome columns of sculptured elephants. The edifice contains extensive sculptured works and painted designs.

KAILYARD, kāl'yārd, **SCHOOL**, term used to designate a group of late 19th-century Scottish writers, principally James Barrie and John Watson (qq.v.), who made important use of dialect, and idealistically, sentimentally, and sometimes humorously portrayed Scotch village life. *Kailyard*, Scotch for "cabbage garden," first arose in its literary connotation from the line, "There grows a bonnie brier bush in our Kailyard," which appeared in Watson's *Beside the Bonnie Brier Bush* (1894; q.v.).

KAINITE, kā'ī-nīt, or **KAINIT**, kā'ī-nīt, a hydrous magnesium sulphate with potassium chloride. An impure kainite containing 12 per cent or more of potash is used as a fertilizer. Kainite is a natural salt and when pure contains 35.1 per cent potassium sulphate, 24.2 per cent magnesium sulphate, 18.9 per cent magnesium chloride, and 21.8 per cent water of hydration.

KAIPING, kī'pīng', town and district, China, situated on Liaotung peninsula in Hopeh Province, about 100 miles southeast of Peking. Located in rich coal fields with an annual production of six million tons. Kaiping is served by the Peking-Mukden railway and by the port of Chinwangtao on the Gulf of Liaotung.

KAIRA, kī'rā, town and district, India, in Bombay State, 20 miles south of Ahmadabad. Possibly founded about 1400 B.C., the town is known to have been a flourishing commercial center in the 5th century A.D., and is the district capital. Kaira District, comprising 1,617 square miles, is watered by the Mahi and Sabarmat rivers and raises rice, cotton, millet, and pulse. Cotton textiles and glass are manufactured. Pop. (1941) of town, 7,311; of district, 914,957.

KAIROUAN, kēr-wān', or **KAIRWAN**, kīr-wān' (Arab. QUAIRWAN, kīr-wān), city, Tunisia, situated on a barren sandy plain and surrounded by a wall. It was founded about 670 A.D. by the Arab general, Okba; was the capital of the Aghlabite dynasty (800-909); and remained an important commercial center. Un-

der the administration of the French government, starting in 1881, numerous municipal improvements were effected. Kairouan is connected by rail with the capital, Tunis, 80 miles north, and with the port, Sousse, 30 miles northeast. Its manufactures include morocco leather goods, carpets, and copper utensils. Still one of the sacred cities of Islam, Kairouan was formerly almost inaccessible to Christians. Much of its ancient grandeur survives in beautiful architecture, particularly its fine mosques. The imposing Okba Mosque, rebuilt in 827, is held in veneration by the Moslems as one of the reputed four gates of paradise. Pop. (1946) 32,299.

KAISER, kī'zēr, **Georg**, German author: b. Magdeburg, Germany, Nov. 25, 1878; d. Ascona, Switzerland, June 5, 1945. As a dramatist who employed advanced modern technique incorporating brilliant dialogue in well conceived plays, he secured recognition as one of the leaders of the German expressionistic school of dramatic writing. Kaiser created both comedies and serious plays devoted to social and ethical problems. They were almost uniformly successful, both artistically and commercially, until the advent of the Hitler regime, which suppressed and burned his works and forced him into exile. His best known plays include *Die Jüdische Witwe* (*The Jewish Widow*, 1911); *König Hahnrei* (*King Henry*, 1913); *Von Morgens bis Mitternachts* (1916), a moving drama of the futility of modern civilization, which was produced in 1922 by the Theatre Guild, Inc., in New York, under the title of *From Morn to Midnight*; and *Gas* (in two parts, 1918 and 1920), which bitterly denounced the industrial system and pleaded for man's emancipation from the tyranny of the machine. Kaiser also wrote the novels: *Est Ist Genuq* (*It's Enough*, 1932); and *Villa Aurea* (*Village in Sicily*, 1940).

Other of his dramatic works include: *Rektor Kleist* (1905); *Die Bürger von Calass* (1914); *Die Versuchten* (1917); *Die Sorina* (1917); *Die Koralle* (1918); *Der Brand im Opernhaus* (1918); *Holle, Weg, Erde* (1919); *Die Flucht nach Venedig* (1923); *Nebeneinander* (1923); *Kolportage* (1924); *Zweimal Oktober* (1926); *Gats* (1928); *Oktoberfest* (1928); *Zwei Krawatten* (a review, 1929); *Mississippi* (1931).

KAISER, Henry J., United States industrialist: b. Canajoharie, N. Y., May 9, 1882. After an earlier career as a delivery boy in Utica, N. Y., as a photographer at Lake Placid, N. Y., and Daytona Beach, Fla., he went to Spokane, Wash., where he entered the sand and gravel business. Between 1914 and 1930, operating his own construction firm, he won a \$250,000 contract to pave roads in British Columbia, and also did highway construction in Cuba, involving a 300-mile, 200-bridge road across the swamps of Camagüey Province, and in California and Washington (1914-1929).

From 1930 on he managed numerous far-flung construction and industrial activities. In 1931 he headed Six Companies, Inc., contractors for the construction of the Boulder (Hoover) Dam. Two years later he headed Bridge Builders, Inc., which erected piers for the San Francisco-Oakland Bridge, and in 1934 he directed the Columbia Construction Company, which built the Bonneville Dam, Ore. He also managed the Consolidated Builders, Inc., constructors of the Grand Coulee Dam, Wash., in 1939. In all, between 1931 and 1945, he shared in the realization of more than 70 major construction projects.

In addition he built factories for the produc-

ion of cement, magnesium, iron and steel, and other raw materials, and for the manufacture of ships and automobiles. He organized and administered the Permanente Cement Company, which established the world's largest cement plant at Permanente, Calif.; he built the huge Fontana, Calif., steel plant; and he shared in the establishment of the Kaiser-Frazer Corporation, the first major new American producer of automobiles in the post-World War II era.

Henry J. Kaiser's major contribution was made during World War II, when he organized and managed half a dozen shipyards in California and Oregon, which in the years 1941 and 1942 were assigned an estimated one third of all the ships contracted for by the United States government in its wartime shipbuilding program. His shipyards, using specially devised methods of prefabrication and construction, drastically reduced the length of time required for shipbuilding, and soon became recognized as the world's largest and swiftest producers of ships.

KAISER, Isabelle, Swiss author: b. Beckenried (on Lake Lucerne) Switzerland, Oct. 2, 1866; d. there, Feb. 28, 1925. Her works, written in both French and German, comprised poetry, short stories, romances and idealistic novels. Writing most often in French, she won a prize from the French Academy. Best known of her works are the novels *La Vierge du lac* (1913) and *Rahels Liebe* (1921).

KAISER, kī'zēr, Jakob, German politician: Hammelburg, Bavaria, Germany, Feb. 8, 1888. At first a bookbinder, he became active in the Christian Trade Union movement and was a member of the Center Party between 1910 and 1933. In the latter year he was elected member of the Reichstag. Imprisoned for seven months in 1938 by the Nazi regime, he took part in the abortive plot against Hitler's life in July 1944, but, by going into hiding, escaped reprisals. In 1945 he emerged as one of the founders of the Christian Democratic Union party set up in the Soviet zone of Berlin and was the party's chairman until the Russians dismissed him in Nov. 1947. Settling in West Germany he was elected to the Federal Parliament in August 1949 as representative of North-Rhine-Westphalia. In September of that year he was appointed Minister for All German Affairs in Konrad Adenauer's government.

KAISER, kī'zēr (Lat. *caesar*), German title, equivalent of emperor, first associated after 962 with the Germans, whose kings became emperors of the Holy Roman Empire. In 1871, after the Franco-Prussian War, William I of Prussia assumed the title of emperor (kaiser) of Germany, a title distinct from the older designation of German emperor. See also EMPEROR; CAESAR.

KAISER WILHELM CANAL. See KIEL CANAL.

KAISER WILHELM II LAND, Antarctica, on the Indian Ocean coast, between 86° and 91° 52' East, so named by its German discoverer and explorer, Erich von Drygalski, in 1902; now called Wilhelm II Coast.

KAISER-WILHELMSLAND, kī'zēr-vīl' nēlms-lānt, former colony of Germany in north-

eastern New Guinea, part of German New Guinea which included also the Bismarck Archipelago and the German Solomon Islands. Occupied by Germany in 1884, it was seized by Australia in 1914. Australia now rules it under a United Nations mandate as the Territory of New Guinea.

KAISERSLAUTERN, kī-zērs-lou'tērn, city, Germany, located in the Rhenish Palatinate district of Bavaria, about 40 miles west of Mannheim. It is the center of spinning and weaving activities and of iron and steel works and railway shops. Its factories also produce bicycles, sewing machines, furniture, clothing and shoes, brewery and tobacco products, and other items.

First mentioned in 882, the city was the site of a magnificent palace, built in 1152 by Frederick (Barbarossa) I, and destroyed by the French in 1713. It became a city in 1276, and in 1357 became subject to the Palatinate. It was conquered by the Spaniards in 1635, by the French in 1688, and in 1801 was retaken by the French and made the capital of the French department of Donnersberg until 1814. Bavaria obtained it in 1816 and it was returned to the Palatinate in 1849, but still remained an integral part of Bavaria. Pop. (1950) 62,395.

KAJANUS, kā-yā'nōōs, Robert, Finnish conductor and composer: b. Helsinki, Finland, Dec. 2, 1856; d. there, July 6, 1933. Graduated from the Leipzig Conservatory in 1880, he founded in 1882 the Helsinki Philharmonic Society, an orchestra which under his direction became internationally known for its performances of the works of Sibelius and other Finnish composers. When this organization became the Helsinki Municipal Orchestra in 1914, Kajanus continued as conductor until 1932. He taught music at the University of Helsinki from 1897 to 1926, having been named a professor in 1908. As a composer, Kajanus was one of the first to create a characteristic Finnish national style. His works included symphonic poems, rhapsodies, orchestral suites, cantatas, chorale works, songs, and piano music.

KAJAR, kā-jār, a dynasty of seven rulers of Persia (Iran). Founded in 1794 by the eunuch chief of the Kajar tribe, Agha Mohammed Khan, who murdered the last representative of the Zand or Zend dynasty (1750-1794) Lutf Ali, the Kajar dynasty lasted until 1925, when the Persian Majlis (National Assembly) on October 31 of that year deposed Ahmad Shah or Ahmed Mirza (q.v.) and chose Reza Khan Pahlavi as his successor. The list of shahs of the dynasty is as follows:

Agha Mohammed Khaan	r. 1796-1797
Fath Ali	r. 1797-1834
Mohammed Shah	r. 1834-1848
Nasr-ed-Din	r. 1848-1896
Muzaffar-ed-Din	r. 1896-1906
Mohammed Ali	r. 1907-1909
Ahmad Shah (Ahmed Shah)	r. 1909-1925

During the period of this dynasty and particularly from the reign of Fath Ali, Persia was drawn into the orbit of European politics, lost Baku, Georgia, most of Persian Armenia and other territories to Russia, granted capitulations and other economic and financial privileges to European powers, and, in 1906, received a constitution (see PERSIA-IRAN—History).

KAKA, kā'ká, a large slow-flying brownish parrot (*Nestor meridionalis*) of New Zealand, which inhabits forests, where it goes about in

noisy flocks, and nests in hollows of trees. Its food is miscellaneous, but consists principally of nectarous flowers and of the grubs hiding under bark, which it tears away by its powerful hawk-like beak. A near relative is the kea (q.v.), while other species on New Zealand, Norfolk, and neighboring islands have become nearly extinct since the occupation of those islands.

KAKABEKA FALLS, a cataract of the Kaministiquia River, Ontario, Canada, 17 miles west of Fort William. The falls, which are noted for their picturesqueness, have a height of 130 feet and a width of about 450 feet. The village of Kakabeka Falls is located here and is noted as a hydroelectric power center.

KAKAPO, kā-kā-pō', the Maori name of a large, ground-keeping parrot (*Strigops habroptilus*), which is now nearly extinct, owing to its inability to withstand the dogs, cats, rats, and other animals introduced by civilization, in addition to which its flesh is good to eat. Its terrestrial habits have led to such a reduction of the wing muscles that the keel has nearly disappeared from the sternum. Its brown-barred plumage and whisker-like feathers about the beak have given the bird the name of owl parrot.

KAKARALI, kā-kā-rā'li, a South American tree (*Lecythis ollaria*), whose timber is much used in British Guiana for piling and structures exposed to salt water, since it endures well, and resists the boring of shipworms and the attacks of barnacles. The Indians beat its bark until it separates into thin layers convenient for use. It is also known as the monkeypot tree.

KAKKE, kāk'kā, the Japanese word for beriberi (q.v.).

KALA AZAR, kā'lā ā-zār', or **DUMDUM FEVER**, a disease prevalent in India, northern China, Indo-China, Sudan, and countries bordering the Mediterranean. It is caused by a protozoan parasite, *Leishmania donovani*, and is characterized by emaciation, fever, anaemia, enlarged spleens, and leukopenia. The disease is more often fatal than not and is divided into two types, one, affecting older children and adults, prevalent in the Far East, and the other, affecting infants, prevalent in Mediterranean countries. The parasite is known to be carried by the Indian bedbug and, although its bite is doubted to transmit the disease, the disease is carried when the person bitten kills the gnat and scratches the bite, thus spreading the infection.

KALAHARI DESERT, kā-lā-hā'rē, a region of South Africa, extending from the Orange River to Lake Ngami, and from longitude 26° E. nearly to the west coast. It is situated in Bechuanaland Protectorate, western Union of South Africa, and eastern South-West Africa, and is part of the huge inner tableland of South Africa. It has an elevation of 3,000 to 4,000 feet, and is called a desert because it contains little water, although besides grass and creeping plants there are large growths of bushes and trees. Herds of antelopes and other tropical animals roam over its plains, and on the game thus provided, as well as on the vegetable products which grow there, particularly watermelons and large tubers, a great number of Bushmen and Hottentots subsist.

The Kalahari is remarkably flat, and is intersected in different parts by the beds of ancient rivers. The soil is in general a red-colored soft sand, but in the ancient riverbeds there is a good deal of alluvium which, when baked hard, is so retentive that in some cases pools formed by the rain contain water for several months. The desert was first crossed by Daniel Livingstone and William C. Oswell in 1849. In the south-western part of the region is the Kalahari National Park, 3,729 square miles, a game reserve containing nearly all the animals native to that region particularly gemsbok (oryx).

Consult L. A. Mackenzie, *Report on the Kalahari Expedition* (Pretoria, U of S. Af. 1945).

KALAKAUA, kā-lā'kā'ōō-ā, David, king of the Hawaiian Islands: b. Nov. 16, 1836; d. San Francisco, Calif., Jan. 30, 1836. After leading an unsuccessful revolt against King Lunalilo in 1873, he was elected king of the Hawaiian Islands by the Assembly in 1874 after Lunalilo's death. He visited the United States in 1874 and took a trip around the world in 1881 and on his return to Hawaii attempted many reforms in the government. However, in 1887, after his reforms had aroused a revolution, he was compelled to grant a new constitution to his people which very greatly restricted the royal authority.

KALAMATA, kāl-ā-mā'tā, or **KALAMAI**, kā-lā'mā, seaport, Greece, capital of Messenia Department, situated near the mouth of the Nedon, in the Gulf of Messenia, and connected by rail to Patras and Argos. A manufacturing and trade center, it has flour and silk mills and manufactures cigarettes and liquors. It exports figs, oranges, mulberries, olives, and foodstuffs from the surrounding region and has a coaling station and repair docks.

The town was first established in 1204 by French crusaders. The first Grecian National Assembly was held here in 1821 and in 1825 the town was sacked by Ibrahim Pasha during the Greek war of independence. Pop. (1951) 38,363.

KALAMAZOO, kāl-ā-mā-zōō', city, Michigan, and seat of Kalamazoo County, at an altitude of 775 feet, situated on the Kalamazoo River, 142 miles west of Detroit and about 140 miles by rail east-northeast of Chicago, and served by the Pennsylvania, the Michigan Central, the New York Central, and the Grand Trunk railroads state and federal highways, and a municipal airport with scheduled air service. Within a 60 mile radius are Grand Rapids, Lansing, and Battle Creek, and within the territory thus defined Kalamazoo is an important trading center and shipping point. Southwestern Michigan is largely agricultural, and the valley of the Kalamazoo River is noted for its production of celery, tulip and gladioli bulbs, pansy plants, and peppermint. Corn is the principal staple crop, and a considerable acreage is devoted to orchards and vineyards. The region is well watered—besides the rivers there are many lakes.

Kalamazoo itself has over 240 manufacturing concerns making such products as paper, pharmaceuticals, furnaces and stoves, fishing tackle, essential oils, electric goods, truck transmissions, air-conditioning machinery, and water and gas heaters.

The city has fine library facilities, those of its public library, of two college libraries, and

the county law library. Educational equipment includes public and parochial schools, Kalamazoo College, opened as an academy in 1833 and reorganized as a college in 1855, the Western Michigan College, founded in 1904, and Nazareth college (at Nazareth), a Catholic school for girls, founded in 1897. The city has musical organizations, including a symphony orchestra and a male chorus, and an institute of arts. A small historical museum is maintained in the public library building.

Kalamazoo is well equipped in respect to parks, playgrounds, and recreation centers. Its organized philanthropies cooperate in the conduct of community chest campaigns. Welfare institutions are two general hospitals, a county tuberculosis sanitarium, and a state hospital for mental cases. In the neighborhood of the city there are old Indian mounds. Fort Custer is about 18 miles distant.

History.—The name Kalamazoo is of Indian origin, meaning "boiling pot," and was given to the river because of gas bubbles in the water. There was a trading post here in 1823, but the first permanent settlement was in 1829 when Titus Bronson gave his name to the trading settlement here. The Indian name was restored to the town in 1836 and incorporation as a village was effected in 1843. For years Kalamazoo enjoyed the distinction of being known as the largest village in the land until it was made a city in 1884. In 1847 a group of Hollanders, seeking refuge from religious persecution, settled here, and as early as 1856 celery was introduced among the farmers. Kalamazoo was one of the first cities in Michigan to adopt a commission form of government with a city manager. Pop. (1950) 57,704

KALAMAZOO, a river which has its rise in the northwestern part of Hillsdale County, Michigan, and flows west and northwest into Lake Michigan. From the source to the city of Kalamazoo it makes three southward curves, but from Kalamazoo the course is generally northward. Its whole length is about 200 miles, only of which are navigable. At the mouth is a good harbor for vessels of about 100 tons. The waterpower is extensive, and has been of great value in the development of the southwestern part of Michigan. Allegan, Kalamazoo, Battle Creek, Albion, and Marshall are on this river.

KALAPOOIA or **KALAPUYA**, *kāl-ā-pōō'ya*, the family name of a group of Indian tribes in northwestern Oregon, principally in the Willamette River valley. They were of a decidedly peaceful character and consequently have not figured prominently in the history of the country. Never very numerous in historical times, the Kalapooians are represented by descendants who are for the most part American citizens who have adapted themselves to the ways of their country. The Yonkalla, Yamel, Atfalati, and Santiam tribes on the Grande Ronde Reservation belong to this group.

KALAT or **KHELAT**, *kā-lāt'*, a former state in British India and Pakistan, and since April 12, 1952, merged with the other Baluchistan states of Las Bela, Kharan, and Makran into the Pakistan States-Union. The state of Kalat had an area of 59,068 and a population (1951) of 100,000. On the formation of Pakistan in 1947,

Kalat, although within the boundaries of that country, was recognized as independent and its khan was generally accorded to rule the other three Baluchistan States. Since the unification, Pakistan decreed that the present khan of Kalat shall be president until his death and that thereafter the president shall be elected by a council of rulers.

The city of Kalat, 88 miles south of Quetta, was the capital of the state of Kalat, and is the center of the caravan routes to Khuzdar, Gandava, Quetta, Mashung, and other cities. The British, who occupied the city in 1839, retained a garrison at Kalat since 1854 and a resident agent since 1877, although these were withdrawn in 1948. Lying at an altitude of 6,780 feet, the city has a population (1941) of 2,463.

KALB, *kälp* or *kälb*, **Johann** (known as **BARON DE KALB**), German soldier: b. Hüttendorf, Germany, June 29, 1721; d. Camden, S. C., Aug. 19, 1780. A soldier of fortune, Kalb was one of several excellent European officers who served in the American Continental Army during the Revolutionary War.

He received his military training as an officer in a German regiment of the French Army, seeing action in the War of the Austrian Succession and in the Seven Years' War. In 1768 he visited the American colonies as a secret agent of the French government to test the feelings of the colonists for Great Britain, and in 1777, after volunteering to serve in the American Army and receiving a commission of major general from Silas Deane in Paris, he came to America with 11 other volunteer officers, among them the marquis de Lafayette.

Congress ratified his commission on Sept. 15, 1777, and Kalb hastened to join the main army in New Jersey under George Washington. After leading an abortive attempt to invade Canada that stopped short of Albany, N. Y., he was sent in April 1779 to re-enforce Gen. Benjamin Lincoln, who was besieged at Charleston, S. C.

He went as far as Petersburg, Va., where he learned that Charleston had fallen, and there he was joined by Gen. Horatio Gates, under whose command he was. The armies hastened on to Camden, S. C., and after a disastrous delay which allowed Lord Cornwallis to enter the city, attacked on Aug. 16, 1780. General Kalb's right wing was the only flank that held during the first charge, but eventually, with Cornwallis concentrating his entire force upon them, they were forced to give way. Kalb, captured by the British after he had fallen with 11 wounds, died three days later in Camden.

KALBECK, *käl'bëk*, **Max**, German poet, critic, and author: b. Breslau, Jan. 4, 1850; d. Vienna, May 3, 1921. After working for several newspapers in Germany and publishing a well-received book of poetry, *Aus Natur und Leben* (1870), he went to Vienna in 1880 where he quickly became a well-known music critic and librettist. He wrote excellent criticisms of Richard Wagner's *Nibelungen* (1876) and *Parsifal* (1880); and several volumes of collected criticisms, *Wiener Opernabende* (1881) and *Opernabende* (1898). He wrote a new text for Christoph W. Gluck's *Die Maierkönigen* (1888) and the book for Alexander von Frelitz's *Das Stille Dorf* (1897). He adapted to German dramas and operas, among them Jules E. F. Massenet's

'Le Cid' and 'Werther'; Verdi's 'Otello,' and characteristic and popular productions of Smareglia, Smetana, Mascagni and Tschai-kowsky. He also wrote an appreciative and critical biography of Brahms (1904).

KALCKREUTH, kälk'roit, Stanislaus, COUNT, German landscape painter: b. Kozmin, 1821; d. 1894. He began life as a soldier and served as lieutenant in the First Guards Regiment from 1840 to 1845. Resigning from the service he went to Berlin and there studied painting under some of the most famous German teachers. He possessed a certain poetical and mystical bent which became early evident in his paintings which were highly idealized. This gained him great popularity and won for him the appointment of art professor from William IV of Prussia (1859) and permission to organize the new art school, opened the following year in Weimar. He became director of this school, upon which he stamped his individuality for 16 years; during which he had considerable influence on the trend of art in Germany and Austria. But the day of Kalckreuth is already past, for his artificiality has become apparent to modern art critics. Among his best known and most popular paintings are 'Lac de Glaube' (1855); 'Canigai Valley' (1856); 'Rosenlaur Glacier' (1878), all three in the Berlin National Gallery; 'Lake in the Pyrenees' (1858), in the Königsberg Museum, and a notable series of landscapes in the Orangery near Potsdam.

KALE, or **BORECOLE**, a cruciferous plant (*Brassica oleracea*, var. *acephala*), differing from cabbage most strikingly in the non-formation of heads, the leaves being loose and free. It is largely cultivated as a pot-herb, especially in the South, where it generally withstands the winter. It is rather coarse in texture and flavor, but frosts modify both somewhat. In some sections it is extensively used for cattle-feeding. One of the largest producing regions is that in the vicinity of Norfolk, Va., which ships about 200,000 barrels to the markets each year. The varieties cultivated in America are nearly all treated as annuals, being grown from seed much like late cabbage. Some varieties, however, are perennial and may be propagated by cuttings, etc. For cultivation see CABBAGE.

KALEEGE, ka-lēj, or **KALIJ**, **PHEASANTS**, a sportsmen's name in India for the pheasants of the genus *Gallus*, which range along the foot-hills of the Himalayan range and eastward to the China and down the Malay peninsula to Java. They are of medium size, richly dressed, with flattened crests, naked cheeks and spurs on the male. White is conspicuous in the plumage of most, so that they are sometimes called silver pheasants, especially the Chinese species (*G. nymphaea*), frequently seen in parks and menageries. All are attractive as game birds, especially the Himalayan white-crested and black-crested.

KALEIDOSCOPE, ka-li'dō-skōp, an optical instrument invented by Sir David Brewster in 1817. It consists of a tube through the length of which pass two mirrors or reflecting planes, which are hinged together along one edge, and form two sides of a triangular prism; while the one end is fitted up

with an eye-glass, and the other is closed by two glasses, at a small distance from each other, between which are placed little fragments of glass or other colored objects. The eye looking into the tube perceives these objects multiplied, and the slightest moving of the instrument produces new figures.

KALENDS. See CALENDAR.

KALERGIS, ka-lēr'gēs, **Demetrius**, Greek soldier and statesman: b. on the island of Crete 1803; d. 1867. Educated at Saint Petersburg he studied medicine at Vienna and Paris, but left his course unfinished to take part in the Greek War of Independence (1821), during which he was taken prisoner by the Turks. He took part in the revolution of 1845 and was forced to exile himself, spending the next three years in London. After the residence of some time in Paris, he became Minister of War in the Mavrocordatos Ministry (1854-61) after which he was sent as Ambassador to Paris, where he played an important part in the negotiations which finally bestowed the throne of Greece on Prince George of Denmark.

KALEVALA. The romantic movement, which in Germany began by the collection of folk songs and fairy tales, frequently led in the outlying countries to literary creations of national epics on the basis of actual epic songs. Thus arose in Finland the "Kalevala," systematically arranged by Elias Lönnrot in 1835, and in 1849 totally rearranged and enlarged to 22,800 verses. Almquist showed how Lönnrot had eclectically glued together actual variants, sometimes composing himself a few lines in order to bridge over discordant passages, more frequently rejecting verses which clashed with the general scheme he had in mind. However, if we disregard the unity of the "Kalevala" as a whole and the unimportant literary transitions, we have in Lönnrot's production an extremely valuable collection of Finnish heroic and magical songs, which throw a light upon the formation of a popular literature among the Finnish tribes. Some archaeologists have assumed that in this 'Kalevala' we have a documentary record of a primitive state of society, but Comparetti, with far more justice, holds that it is not an invariable document of antiquity, but reflects, in ever changing form, the intellectual condition of the simple folk not far removed from the time when these songs were written down. Therefore it is not correct to speak of the 'Kalevala' as an epic, especially since the indeterminateness of images represented and the arbitrary personification of nature permit no set classification. The Finnish mythology is based on shamanistic polydaemonism and is not as highly developed as it was among the Romans, Assyrians or other cultured nations of antiquity, hence it yields no well-defined theogony. Similarly the hero is not always to be separated from the poet and magician, and his chief exploit consists in song competitions, as is the case with the shamanic wizard, or in wooing of the bride. The most cherished possession of such a hero is the sampo, a treasure which is hazily identified with a precious casket or a mill, but which Comparetti takes to be a Scandinavian word meaning 'the commonwealth,' and which

here has become a concrete object to be striven for. Just as indefinite is the Kalevala, the country of Kaleva, one of the heroes, though some authors take it to be «Finland» while the Pohjola, with which it is in conflict, has been supposed to represent the country of the North or the abode of the dead. But, while the Kalevala loses in importance as a national epic with a well-sustained plot, it justly maintains its place in popular literature, on account of the vivid imagery displayed by the popular poet.

The poem is now accessible to English readers in several translations: 'The Kalevala, the Epic Poem of Finland,' rendered into English by J. M. Crawford (2 vols., New York 1888); 'Kalevala, the Land of Heroes,' translated from the original Finnish by W. F. Kirby (London 1907, in 'Everyman's Library,' 2 vols.). Selections from the 'Kalevala' are given in 'Selections from the Kalevala,' translated from a German version by J. A. Porter (New York 1868); 'People of Finland in Archaic Times,' by J. C. Brown (London 1892); 'The Sampo, Hero Adventures from the Finnish Kalevala,' by James Baldwin (New York 1912). The best study of the poem is still that by Comparetti, 'The Traditional Poetry of the Finns,' translated by Isabella M. Anderson, with introduction by Andrew Lang (London 1898). The obligation of Longfellow's 'Hiawatha' to the 'Kalevala' was early pointed out by Th. C. Porter (in the *Mercersburg Review*, Vol. VIII, 1856).

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KALEVIPOEG, ka-lä'vë-pëg (son of Kalev), the chief Esthonian epic poem, based upon popular songs collected by Kreutzwald (1857-59). As the material used by the collector was destroyed, much discussion has resulted as to the position occupied by the poem among real national epics. Consult Kirby, 'Hero of Esthonia and Other Studies' (Vol. I, London 1895); Reinthal, 'Kalewipoeg, eine estnische Sage' (including the text of the poem with a German translation, Dorpal 1857-61).

KALGAN, käl-gän' (Chinese, *Chang-Kia K'ow*), a city of Meng Chiang (formerly Inner Mongolia), about 125 miles northwest of Peking and on the Peking-Suiyuan Railway, at about 2,800 feet above sea level. At Kalgan, on 22 Nov. 1937, the Japanese established the «Federated Council of the Mongol Border Land» (Meng Chiang) which became the «Mongolian Federated Autonomous Government» under Japanese auspices, in 1939. Prior to 1937 the city was an important trading center. Kalgan was partly destroyed by floods in 1924. Pop., about 63,000.

KALHANA, käl'ha na, a noted Sanskrit writer, author of 'Rājataragini,' the chronicle of the kings of Kashmir.

KALI, käl'le, a Hindu goddess represented with four arms, wearing a necklace of skulls, and the hands of slaughtered giants round her waist as a girdle. Her eyebrows and breast appear streaming with the blood of monsters she has slain and devoured. One hand holds a sword, another a human head. She is the goddess of death and destruction, and goats and other animals are sacrificed on her altars.

KALIDASA, kä-lī-dä'sä, the greatest poet and dramatist of India and one of the great world poets. Native tradition assigns him to the 1st century B.C., but western scholars place him as late as the 6th century A.D. He was one of the nine «gems» or poets, at the court of King Vikramaditya, in Ujjain, but the fact that several monarchs were so named makes his date no more definite. The present tendency of scholars is to place him earlier than the 6th century but not so early as the traditional date. His most famous works is the drama 'Sakuntalā,' translated by Sir William Jones in 1789 and highly praised by Goethe. This translation helped to call the attention of the Occidental world to Sanskrit studies. Kalidasa wrote two other plays, the 'Vikramorvasī' and 'Māla vikā and Agnimitra.' His great lyrical masterpiece is the 'Megha-duta' (Cloud Messenger), in which a cloud is made the envoy of a lover to his absent sweetheart. Other poems are 'Ritu-samhāra,' a poem on the seasons; the 'Kumara-sambhava,' in 18 cantos, and the 'Raghuvamsa,' a eulogy of the great house of Rama, Prince of India. Many other works have also been attributed to him with various degrees of probability. His literary value has long been conceded. He excels in artistic form and his conceptions are full and rich. Editions and translations of Kalidasa have come forth in great number within recent years. Consult Schuyler, 'Bibliography of the Sanskrit Drama' (New York 1906); Foulker, 'Kalidasa: A Complete Collection of the Various Readings of the Madras Manuscripts' (4 vols., Madras 1904-07); Pansikar, 'Kumarasambhava,' with the commentary of Mallinath and Sitaram (5th ed., Bombay 1908); Cappeller, 'Sakuntala, kürzere Textform mit Anmerkungen' (Leipzig 1909); Hultzsch, 'Megha-duta' (London 1911). Of the English versions of the 'Sakuntala' the following are of importance: Jones, Sir William, 'Sakuntala, or the Fatal Ring' (Calcutta 1789; London 1790; 1870); Monier-Williams, 'Sakuntala, or the Lost Ring' (6th ed., London 1890); Edgren, 'Shakuntala, or the Recovered Ring' (New York 1894). There is a fairly complete bibliography of Kalidasa and a discussion of his date in Macdonell, 'History of Sanskrit Literature' (London 1913). For details of Kalidasa's life and period, consult Beckh, 'Ein Beitrag zur Textkritik von Kalidasa's Megha-duta' (Berlin 1907); Bhao Daji, 'On the Sanskrit Poet, Kalidasa,' in *Journal of the Bombay Branch of the Royal Asiatic Society* (Bombay 1860); Huth, 'Das Zeitalter des Kalidasa' (Berlin 1892); Seviratne, 'Life of Kalidas' (Colombo 1901); Ray, 'Age of Kalidasa,' in *Journal of the Asiatic Society of Bengal* (Vol. IV, Calcutta 1908).

KALINGA, kä ling'ga, a sub-province in northern Luzon and also a tribe inhabiting it. Part of the tribe has become partially civilized. Among the members of this part agriculture is practised and metal work is carried on successfully. They adhere to the Catholic faith and live much as the natives do on other parts of the island. Other members of the tribe live in the interior where they have little communication with the whites and are, therefore, but imperfectly known. They are reputed head-hunters and tree-dwellers. The Kalinga are closely

related linguistically and racially to the Tinguians of the Abra.

KALININ, kŭ-lyě'nyin, Mikhail Ivanovich, Russian statesman: b. Verkhnyaya Troitsa, Tver (later Kalinin) Province, Nov. 20, 1875; d. June 3, 1946. The son of a peasant, he received a rudimentary education, and at the age of 18 became a factory worker in St. Petersburg (later Leningrad). There he joined the Social Democratic Party in 1898 and became active in the revolutionary movement, subsequently being arrested several times. His last arrest was in 1916, and the next year he took a prominent part in organizing the October Revolution. Nikolai Lenin (q.v.) secured for him the chairmanship of the Petrograd Soviet, and in 1919 he became chairman of the Central Executive Committee of the Russian Soviet Federated Socialist Republic. With creation in 1922 of the Union of Soviet Socialist Republics (USSR), he was made chairman of its Central Executive Committee, and in 1938, under the new constitution, his title became chairman of the Presidium of the Supreme Soviet of the USSR—a designation equivalent to that of president of the Soviet Union. As titular chief of the government he had, however, extremely limited powers. He continued to serve in that office until his retirement on March 19, 1946, because of illness. In his honor, Tver and Königsberg were renamed, respectively, Kalinin and Kaliningrad (qq.v.).

KALININ, Kŭ-lyě'nyin, Soviet Union, capital of a region of the same name, Russian Soviet Federated Socialist Republic, formerly known as TVER. It is situated on the Volga, 96 miles northwest of Moscow (Moskva), and is an important industrial city; manufactures include steel and iron products, cotton textiles, and leather goods. The city was the capital of an independent principality from the 13th century until 1490, when it was annexed by Moscow. The Cathedral of the Transfiguration, a remarkable structure with five cupolas, built in the 16th century, possessed fine mural paintings executed by Platon (1737–1812), a monk who became the city's bishop in 1770. Tver was renamed in honor of Mikhail Ivanovich Kalinin (q.v.). Pop. region (1939), 3,211,439; city (1939), 216,131.

KALININGRAD, Soviet Union, Baltic seaport, chief town of an oblast of the same name, Russian Soviet Federated Socialist Republic, formerly known as KÖNIGSBERG. Until captured by the Russians on April 9, 1945, during World War II, it had been the capital of the German province of East Prussia. It is situated on the Pregel River, 4.5 miles from its mouth, 397 miles northeast of Berlin; a canal, completed in 1901, permits vessels of deep draught to reach the city from the Baltic. Notable buildings include a Gothic cathedral begun in 1333; a palace, once the residence of the grandmasters of the Teutonic Order, a wing of which comprises the church in which Frederick I in 1701 and William I in 1861 placed the crown on their heads as kings of Prussia; and a university founded in 1544 by the Margrave Albert, containing an observatory, established in 1811, made famous by the work of Friedrich Wilhelm Besel (q.v.). There are also a botanical garden, a conservatory of music, and valuable museums and libraries. It is an important industrial city, manufactures in-

cluding iron and steel products, yarns and thread, woolen textile, chemicals, and amber wares. Founded in 1255, it became a member of the Hanseatic League (q.v.) in 1365, and from 1457 till 1528 it was the residence of the grandmaster of the Teutonic Knights (q.v.); thereafter it was the residence of the dukes of Prussia until 1618. From 1757 till 1762, during the Seven Years War, it was occupied by the Russians, and it suffered much from the French in 1807; Frederick William III retired here when Napoleon was master of Europe. Immanuel Kant (q.v.) was born at Königsberg in 1724. By the Potsdam Declaration, in 1945, the United States and Great Britain agreed that, subject to the final peace settlement, Königsberg and the northern triangle of East Prussia should be transferred to Soviet Russia; the city was renamed in honor of Mikhail Ivanovich Kalinin (q.v.). Pop. (1939) 368,433.

KALINJAR, käl-lin-jar', India, small hill town in the Banda district of the United Provinces, 90 miles southwest of Allahabad, having a history reaching back through the three prehistoric periods of Hindu chronology. The scene of ancient pilgrimages, it contains numerous caves, tombs, temples, and statues of archaeological interest. Toward the close of the 13th century it was captured by the Moslems, who constructed an immense rampart, five miles in circuit, around the summit of the hill on which Kalinjar stands. It was surrendered to the British in 1812.

KALISCH, käl'ish, Isidor, Jewish divine. b. Krotoschin, Prussia, Nov. 15, 1816; d. Newark, N. J., May 11, 1886. He attended the universities of Berlin, Breslau, and Prague, but left Germany at outbreak of the revolution of 1848 and went to Britain. Thence he moved to the United States, and for the next quarter of a century served as rabbi in various American cities. He was a leader in the Jewish Reform movement, and from 1875 he devoted himself to literary work at Newark. His *Wegweiser für rationelle Forschungen in den Biblischen Schriften* (1853) was translated by M. Mayer under the title *A Guide for Rational Enquiries into the Biblical Writings* (1857); he also translated *Nathan the Wise* (1869) and wrote original poetry in German and Hebrew.

KALISPEL, or **PEND D' OREILLE**, pän dö' rä'y', a Salishan tribe formerly living in Idaho and Washington about Pend d' Oreille lake and river. When they became known to the whites they had already attained to considerable advancement along the lines of civilization. This was largely increased through contact with the Jesuit missions which began to be established among them shortly before the middle of the 19th century. A few are still in Washington, but most of the tribe live upon the Flathead Reservation, Montana.

KALISPELL, city, Montana, and Flathead County seat, altitude 2,949 feet, in the Swan and Mission mountains, on the Great Northern Railroad. Ten miles south is Flathead Lake, 30 miles long, 10 miles wide. Hungry Horse Dam is 23 miles northeast and Glacier National Park is 32 miles northeast. Industries include farming, lumbering, and mining. Pop. (1940) 8,245; (1950) 9,737.

KALISZ, kă'lěsh, Poland, city of Poznan province, 147 miles southwest of Warsaw (Warszawa). Among its industries are milling, weaving, distilling, and sugar refining, and woolen and leather goods are also manufactured. One of the most ancient towns of Poland, it is thought to be the Galisia of Ptolemy. Pop. (1938) 68,300.

KALIUM, another name for the metal potassium, whence its symbol K is derived.

KALIYUGA, kă'lě-yōō'gā (Sanskrit word meaning age of strife), the fourth and last of the Hindu ages contained in a mahayuga or great yuga. According to the Hindu belief each succeeding age marked the increased moral and physical degeneration of all created things. Naturally, therefore, the Kaliyuga, being the last of the four ages of this constant degeneration, is the worst. It is believed to have begun in 3102 B.C. according to the followers of the Tantras, the Kaliyuga is the age of Kali, the goddess of epidemics and diseases of all kinds and more especially of cholera.

KALKAS, kăl'kaz, a people who at one time formed a section of the eastern Mongols, but who now dwell in northeastern Mongolia. They are nomadic in habits and typical of the nomadic inhabitants of the steppes. They are supposed to number about a quarter of a million; but no definite census has been taken of them. Consult Haddon, *The Races of Man and their Distribution* (London 1910).

KALLAY, kăl'loi, Benjamin von, Austro-Hungarian statesman: b. Budapest, Dec. 22, 1839; d. July 13, 1903. Of Magyar parentage, he was elected to the Diet of Hungary in 1867, and two years later became Austro-Hungarian consul general at Belgrade. He returned from Serbia in 1875, resuming his seat in the legislature as a supporter of the foreign policy of Count Julius (Gyula) Andrássy (q.v.). In 1879 he received a post in the foreign office, and two years later he became acting minister of foreign affairs. From 1882 until his death he served as minister of finance and administrator of Bosnia and Herzegovina, in this latter office displaying considerable foresight and ability. His writings included a *History of the Serbs* (1877) and *Russia's Policy in the East* (1878).

KALLIO, kăl'lyō, Kyösti, Finnish statesman: b. 1873; d. Helsinki, Dec. 19, 1940. He was a peasant farmer in his early years, and throughout his political career he was a champion of the cause of agriculture. In 1904 he entered the Diet of Finland, at that period an autonomous grand duchy of the Russian Empire, and in 1917 became a senator. He was active in the movement which secured the country's independence in 1919, and was appointed the republic's first minister of agriculture. From 1922 until 1924 he served as prime minister, and in 1925 he was minister of communications. He was again head of the government in 1929-1930 and 1936-1937, and on Feb. 15, 1937, he was elected president for a six-year term. He proclaimed a state of war after Soviet Russia had invaded Finland on Nov. 30, 1939, but in March of the next year he was compelled to accept harsh terms of peace. On grounds of ill health he resigned the presidency on Nov. 28, 1940. A proponent of democratic government and consti-

tutional rule, he fostered some of Finland's most notable land reforms, notably the breaking up of the large estates.

KALM, kălm, Peter, Swedish botanist: b. Angermanland, 1715; d. 1779. He was educated at the universities of Åbo and Uppsala, and became a close friend of Carolus Linnaeus (q.v.). On the recommendation of the latter he was sent to North America by the Swedish government in 1748 to make a survey of its natural history. There he spent three years, and in 1752, following his return to Sweden, he was appointed professor of botany at Åbo. His *En resa til Norra Amerika* (3 vols., 1753-1761) was translated into English by J. R. Foster under the title *Travels into North America* (3 vols., 1770-1771). *Kalmia*, the genus of plants, was named for him.

KALMAR, kăl'mār, Sweden, seaport and capital of a län (county) of the same name, on Kalmar Sound, 190 miles southwest of Stockholm. The län of Kalmar, 4,456 square miles in area, has important lumbering and stock raising industries. The seaport stands in part on the mainland and in part on two small islands. In the historic castle of Kalmarnahus, parts of which date from the 12th century, was signed on July 20, 1397, the "Union of Kalmar," which settled the succession to the kingdoms of Sweden, Denmark, and Norway upon Margaret (q.v.), queen of Denmark, and her heirs. The harbor of Kalmar has been much improved by breakwaters and dredging. The town's industries include shipbuilding and the manufacture of matches. Pop. län (1924), 229,978; town (1944), 23,834.

KALMIA. See MOUNTAIN LAUREL.

KALMYK or **KALMUCK**, member of a western branch of the Mongol race originally dwelling in central Asia. Early in the 17th century the Kalmyks migrated into Russian territory and established themselves in the region southwest of the lower Volga. There they partly abandoned nomadism, but maintained their ancestral Lamaism, with numerous monasteries. Physically of small stature, the Kalmyks are intrepid soldiers and splendid horsemen; during the imperial regime in Russia numbers of them were attached to the Cossack regiments. Under Catherine II of Russia, an immense horde of Kalmyks undertook, in 1771, a reflex migration, 300,000 being reputed to have reached the Hungarian homeland, where they recruited the Mongol population, reduced by Chinese massacre in 1758. Those remaining within the Russian sphere enjoyed a considerable degree of autonomy within the province of Astrakhan. Under the regime of the Soviet Union, the Kalmyk Autonomous Soviet Socialist Republic was constituted in 1935, the area being 28,641 square miles; the population was estimated in 1941 to number 231,935, of whom 75.6 per cent were Kalmyks. In 1942, during World War II, nearly half the republic was occupied by German forces, and assistance rendered them by many of the Kalmyks brought retribution from the Russian government. After the Germans retreated from the area in 1943 the Kalmyk ASSR was disestablished, the territory being assigned to the contiguous Stalingrad, Rostov, and Stavropol regions, and the newly formed Astrakhan Region; the Russian name Stepnoi was given to Elista, which had been the capital of the republic.

KALMYK AUTONOMOUS SOVIET SOCIALIST REPUBLIC, former constituent of the Soviet Union. See **KALMYK** or **KALMUCK**.

KALNOKY, käl'nô-kî, **COUNT Gustav Siegmund** (BARON VON KOROS-PATAK), Austro-Hungarian diplomat: b. Lettowitz, Moravia, Dec. 29, 1832; d. Prödlitz, Feb. 13, 1898. An officer in the cavalry, he entered diplomatic service at the age of 22, serving in Munich, Berlin, London, Rome, and Copenhagen. In 1880 he became minister of foreign affairs, working to better relations between Austria-Hungary and Russia. In 1882 he engineered the Triple Alliance (q.v.) with Germany and Italy, and in 1883 he secured the secret adherence of Rumania. He retired to life membership in the upper house in 1895.

KALOCSA, kô'lô-chô, town, Hungary, 3 miles from the left bank of the Danube, 70 miles south of Budapest. It has been a seat of an archbishopric since the 12th century. Pop. (1941) 12,341.

KALPA, kül'pâ, in Hindu chronology, a day and night of Brahma, or a period of 4,320,000 or 8,640,000 solar-sidereal years. A great kalpa comprises the life of Brahma.

KALPA SUTRA, käl'pâ sôo'trâ, the Sanskrit work treating of the ritual governing the performance of a Vedic sacrifice. It is also the name of the most sacred of the Jainas religious works, written by Bhadra Bahu in the 7th century A.D., and still held in the highest reverence.

KALTENBRUNNER, käl-tên-brun'nër, **Ernst**, German official: b. Ried, Austria, Oct. 4, 1903; d. Nürnberg, Germany, Oct. 16, 1946. After obtaining the degree of doctor of philosophy at the University of Prague in 1926, he practiced law and at the age of 26 had become an assistant judge at Salzburg. In 1932 he joined the Austrian Nazi Party, and in 1935 he was made the leader of the Schutz Staffel (S.S.) in Austria. He was appointed state secretary for security in 1938, and in 1943 he became chief of the German State Secret Police (the Gestapo). He engaged in a widespread program of crimes against humanity, including the murder and mistreatment of prisoners of war, the massacre of Jews and others thought hostile to the Nazi system, and the torture and imprisonment of people in concentration camps of occupied countries. He was captured by United States troops, tried by the United Nations War Crimes Tribunal, and hanged.

KALUGA, kâ-lôo'gâ, city of the Tula Region, Russian Soviet Federated Socialist Republic, situated on the left bank of the Oka River, 100 miles southwest of Moscow. Agricultural machinery is manufactured, and leather goods are also made on a large scale. Basil III Ivanovich (1479-1533) incorporated Kaluga into the grand principality of Moscow in 1518; it was the capital of Kaluga Province prior to establishment of the Soviet regime. Pop. (1939) 89,484.

KALYMNOS, käl'yêm-nôs (ancient CALYMNOS), island, Greece, in the Dodecanese group. About 40 square miles in area, and 11 miles off the coast of Asia Minor, it has a mountainous terrain, and is an important sponge-fishing center. Pop. (1940) 11,864.

KAMA, kâ'mâ, in Hindu mythology, the god of love and marriage. Endowed with perpetual youth and surpassing beauty, he exercised sway over both gods and men; his weapons were blossom-tipped arrows shot from a flowering bow with a bowstring of bees. According to one authority he sprang from Brahma's heart. His wife is Rati (Pleasure).

KAMA, kâ'mâ, river of the Soviet Union largest tributary of the Volga. It rises in the Ural Mountains in the Udmurt Autonomous Soviet Socialist Republic, flows first north, then northeast, and continues in a south and south westerly direction to join the Volga, 43 miles below Kazan after a course of some 1,200 miles. It is navigable almost throughout its whole course. A canal connecting it with a tributary of the Dvina gives water communication between the Caspian Sea and the Arctic Ocean.

KAMAKURA, kâ-mâ-kôo-râ, city, Japan, or the island of Honshu, 14 miles southeast of Yokohama. Capital of Japan in the 13th century, it is now most famous as a center of historic shrines and temples, and as a resort area. It contains the giant statue of Buddha (42 feet), known as *Daibutsu*, cast in 1252. Pop. (1947) 55,168.

KAMAL-UD-DIN, kâ-mâl'ôod-dên', **Isma'il Isfahani**, Persian lyric poet: d. 1237. After enjoying the pleasures of the world he assumed the garb of a Sufi and took up his abode in a hut near Isfahan, city of his birth. He composed many gazels, quatrains, and eulogies. His most famous work is *Divan*, a collection of poems chiefly in praise of his patrons.

KAMALA, kâ-mâ'lâ, a drug formerly in India and Arabia as a specific against tapeworm. It occurs as a brick-red powder, adherent to the fruit of the euphorbiaceous plant *Mallotus philippinensis*, formed by minute roundish, semi-transparent granules, mixed with stellate hairs. The active principle of the powder lies in the 80 per cent of resin it contains, which also supplies the coloring matter, called rottlerin, used as silk dye.

KAMBAN, kâm'bân, **Gudmundur**, Icelandic novelist and playwright: b. Litli-Bær, Alftanes, Iceland, June 8, 1888; d. Copenhagen, Denmark, May 5, 1945. He lived mainly in Denmark and wrote in the Danish language. His major work was the historical novel *Skálholt* (4 vols., 1930-1932; Eng. tr., *The Virgin of Skálholt*, 2 vols., 1936). Another novel, *I See a Wondrous Land* (1936), appeared in English in 1938. Kamban was executed as a Nazi collaborator.

KAMBODJA, kâm-bô'jâ, a Burmese (*Plumeria acutifolia*) related to the oleander, which is commonly used as a shade tree in the villages of that country.

KAMCHATKA, kâm-chât'kâ, peninsula northeastern Asia, bounded on the west by the Sea of Okhotsk and on the east by the Bering Sea. It is 750 miles long, from north to south, and the maximum width is 250 miles; the area is 104,260 square miles. A mountain range traverses the country in a southwesterly direction, with many peaks more than 7,000 feet in height. snow line, in latitude 56° 40', is at an elevation c

260 feet. A large number of volcanoes are in active operation. The highest peak is Kluychevskaya, an active volcano 15,745 feet high. Numerous rivers have their sources in the mountains. The Kamchatka River, rising in the mountain range down the center of the peninsula, follows generally northeasterly course of some 300 miles to enter the Bering Sea; with its affluent the Yelovka, it is navigable for 150 miles. Other rivers include the Avatcha and the Tagil. There are numerous lakes and hot springs. Earthquakes are frequent and violent. The climate is very severe; the winter lasts nine months, and frost is common at all seasons. Animal life is abundant, and fish swarm in the rivers and neighboring seas. The wild animals, plentiful in the more sequestered regions, include bears, wolves, reindeer, wild sheep, black, red, and gray foxes, ermines, sables, and otters. Wild fowl are numerous. Herrings, cod, and salmon are the principal varieties of fish. Fur seals and whales abound in the adjacent waters. The mountains are covered with forests of birch, larch, pine, and cedar; they are of considerable size in the south, but diminish northward until the northernmost portion of the peninsula is covered only with reindeer moss. Minerals known to exist, but little worked, include coal, copper, gold, iron, and sulphur.

The Koryaks, an aboriginal tribe, are largely nomadic. Those of the interior subsist on the produce of the reindeer, and the coastal Koryaks are fishermen. The Kamchadales, the most numerous people, are half breeds, a mixture of Mongols with migrants from Siberia. They were Christianized in the 19th century, and generally speak Russian. The Russians established their first settlement in Kamchatka in 1696, and in 1803 created a provincial administration for the peninsula. Petropavlovsk became the capital, and other towns which grew up include Palana and Nizhne Kamchatsk. Administratively, the peninsula became the Kamchatsk Region of the Russian Soviet Federal Socialist Republic, having an area of 69,711 square miles. Agriculture and the rearing of livestock are being developed, and fish canning is of increasing importance.

KAME, low hills of glacial sands and gravels arranged in stratified order. These hills are more or less isolated and frequently form ridges sometimes reaching about 100 feet in height above the surrounding level country. They are frequently found in the vicinity of the terminal moraines along the line of retreat of the Pleistocene continental ice sheets. See **DRIFT**; **GLACIAL PERIODS**.

KAMEHAMEHA, *kā-mā'hā-mā'hā*, name of the native rulers of the Hawaiian (Sandwich) Islands. **KAMEHAMEHA I**, surnamed **NUI** (the Great): b. Kohala, Hawaii, 1737?; d. Kailua, Hawaii, May 8, 1819. Becoming head chief of the island of Hawaii in 1781, he conquered all islands except Kauai and Niihau by 1795 and made himself king; Kauai and Niihau were ceded to him in 1810. He created an organized government and permitted trade with foreigners. His successor was his eldest son by Keopuolani, his head wife, **KAMEHAMEHA II** (**LIHOLIHO**): b. Hawaii, 1797; d. London, England, July 14, 1824. In 1820 he admitted the first American missionaries. Kaahumanu (Feather Mantle), favorite queen of Kamehameha I, was the young king's *kuhina nui* (premier), and she became regent when he and

his consort went to England in 1824. They died there, and he was succeeded by his full brother, **KAMEHAMEHA III** (**KAUIKEAOULI**): b. March 7, 1814; d. Honolulu, Dec. 15, 1854. Because of his youth, Kaahumanu acted as regent until her death in 1832, when Kinau, a daughter of Kamehameha I, assumed the functions of *kuhina nui*; Kaahumanu, who had become a Christian in 1825, administered the kingdom with notable wisdom and skill. Kamehameha III, a liberal ruler, promulgated a constitution in 1840 and a more modern one in 1852; he secured recognition of the kingdom's independence from the United States in 1842 and from Great Britain and France the following year. He was succeeded by his nephew (son of Kinau and Kekuanaoa, governor of Oahu), **KAMEHAMEHA IV** (**ALEXANDER LIHOLIHO**): b. Feb. 9, 1834; d. Honolulu, Nov. 30, 1863. In 1855 he signed a treaty of commercial reciprocity with the United States, but it was not ratified by Congress. In 1856 he married Emma, adopted daughter of Dr. Rooke, and with her he founded the Queen's Hospital in Honolulu. He was succeeded on the throne by his full brother, **KAMEHAMEHA V** (**LOT KAMEHAMEHA**): b. Dec. 11, 1830; d. Dec. 11, 1872. The constitution which he promulgated in 1864 was less democratic than that of 1852 but satisfied the majority of the Hawaiians. Japanese labor was imported into the islands by a contract made in 1868. He never married, and with his death came the end of the Kamehameha dynasty.

KAMEHAMEHA, Order of, an Hawaiian society founded in Honolulu in 1864 by Kamehameha V. The order was divided into three classes. The badge of the order was a white enameled cross with gold rays surmounted by a crown.

KAMENETS-PODOLSK, *kā'mé-nyëts pō-dōlsk'*, Soviet Union, city of the Ukrainian Soviet Socialist Republic, capital of a region of the same name, near the borders of Bessarabia and Galicia. Agricultural machinery is manufactured. For centuries a part of Poland, it was in Turkish occupation during 1672-1699; in 1795 it became part of Russia. Pop. 33,035.

KAMENEV, *kā'myi-nyëf*, **Lev Borisovich**, Russian politician: b. Moscow 1883; d. there, Aug. 26, 1936. Originally surnamed Rosenfeld, as a young man he joined the Social Democratic Party and became involved in revolutionary movements. He was exiled to Siberia in 1915, but returned to Russia after the revolution of February 1917. With Leon Trotsky (whose sister he married) and others he helped establish the Bolshevik government, and in 1923 became a vice president of the Union of Soviet Socialist Republics. Until 1932 he occupied a number of important government posts, but more than once he was expelled from the Communist Party for opposing its policies. In 1934 he was arrested for complicity in the assassination of Sergei Mironovich Kirov; he was convicted of participating in plots against Joseph Stalin which had been instigated by Trotsky, and was put to death.

KAMERLINGH ONNES, **Heike**. See **ONNES**, **HEIKE KAMERLINGH**.

KAMERUN. See **CAMEROONS**.

KAMES, **Lord**. See **HOME**, **HENRY**.

KANAZAWA, kă'nă-ză'wă, Japan, the largest city on the western coast, on Honshu Island, nearly opposite Yokohama. It was founded in 1583 and the fief, given by Toyotomi Hideyoshi (1536-1598) to Mayeda, one of his captains, made thus feudal ruler of Kago, Noto, and Etchū (one city, eight counties, and 774,091 inhabitants), the wealthiest of all in Japan. Like other cities in Japan, it declined after the fall of feudalism, in 1871; but, like most of them also, subsequently regained prosperity through manufactures, modern improvements, and increase of the output of bronze and lacquer work, red decorated pottery (kutani), and habutai silk. Its public buildings are notable, and its renowned public gardens are the finest in Japan. The Kenroku Park of the Six Combinations—vastness, solemn solitude, labor bestowed, venerable moss-covered appearance, running water, and charming prospect—is one of several places of recreation. Hakusan, or White Mountains, and one of the most noted in all Japan (8,793 feet high), is in view. The thousands of pilgrims annually ascending it usually start from this place. The estimated population in 1938 was 191,600.

KANCHENJUNGA, kăn-chŭn-jŭng'gŭ, mountain of the Himalayas, third highest in the world, on the frontier between Nepal and Sikkim, east-southeast of Mount Everest. The height is 28,146 feet. Its name means the "five treasure houses of the great snows," each of the five peaks being supposed to be a store of a different treasure.

KANCHIL, the smallest species of chevrotin (q.v.). It inhabits Java and neighboring islands, is less than a foot tall, and is proverbially quick and clever in its movements and hiding in the forest. Its scientific name is *Tragulus javanicus*.

KANDAHAR, kăn-dă-hăr', or **CANDAHAR**, Afghanistan, capital of a province of the same name. It is situated on a well-cultivated plain, 3,462 feet above the sea, 313 miles southwest of Kabul. It is enclosed by a mud wall 27 feet high, with a large tower at each of the four corners, 54 semicylindrical bastions, and a broad and deep ditch in front, capable of being filled with water from the river. There are six gates, each protected by double bastions. The circumference of the city is over three miles. One of the most imposing buildings is the octagonal, domed structure containing the tomb of Ahmed Shah (q.v.). There are 180 mosques in the city. It is claimed that this city was founded by Alexander the Great. Kandahar is famous for the fruits grown in the vicinity, and tobacco is cultivated for export; it has important manufactures of felt and silk. Kandahar was held by the British in 1839-1842, and again in 1879-1881. The estimated population in 1937 was 60,000.

KANDALAKSHA, kăn-dă-lăk'shă, USSR, a port on the gulf of the same name (an inlet of the White Sea), in the Murmansk Region of the RSFSR. The principal industry is fishing for cod and herring. Kandalaksha is on the railroad between Moscow and Murmansk. The estimated population in 1935 was 17,000.

KANDAVU, kăn'dŭ-vōō', most southwesterly, and fourth largest, of the Fiji Islands, area

165 square miles. The island, 38 miles long, is almost severed at the center by the Tavuki Isthmus. Mount Washington, 2,750 feet in height, stands at the southwestern tip of the island. Pop. 5,536.

KANDINSKI, kăn-dĭn'skĭ, **Vasili**, Russian painter and designer: b. 1866; d. Paris, France, Dec. 17, 1944. He was associated with the Moscow Academy of Art, and for a time he served as director of the Moscow Museum of Pictorial Culture. In 1911 he founded in Munich, in collaboration with Paul Klee (1879-1940), a school of abstract impressionist painting. He also established in 1921, the Russian Academy of Artistic Sciences. From 1922 until 1933 he was an instructor in the Bauhaus group, at Weimar. He then left Germany, thereafter making his home in Paris. His views on painting were set forth in *The Art of Spiritual Harmony* (1914).

KANDY, kăn'dê, or **CANDY**, Ceylon, capital of Central Province. It is situated at an elevation of 1,602 feet above sea level, alongside an artificial lake, 75 miles northeast of Colombo. The town contains Buddhist and Brahman temples, including the Dalada Maligawa, the most sacred Buddhist edifice in the world. This temple enshrines the reputed Tooth of Buddha, supposedly brought from India 25 centuries ago by a princess who hid it in her hair. Many Pali and Sanskrit manuscripts have been found in Kandy. At Peradeniya, three miles distant, are the beautiful Royal Botanic Gardens. Although occupied by the Portuguese in the 16th century, and by the Dutch in the 18th, the town continued to be the capital of the ancient kingdom of Kandy until 1815, when it was annexed by Great Britain. The artificial lake was constructed in 1840 by the last king of Kandy. Pop. (1941) 30,541.

KANE, Elisha Kent, American Arctic explorer: b. Philadelphia, Feb. 3, 1820; d. Havana, Cuba, Feb. 16, 1857. He was graduated as M.D. in the University of Pennsylvania in 1842, and shortly afterward became surgeon to the American mission to China. After extended travel in India, Egypt, and the continent of Europe, he returned to the United States in 1846, and was employed in the government survey of the Gulf of Mexico. In 1850 he obtained the appointment of senior medical officer to the expedition of two vessels, the *Advance* and the *Rescue*, which sailed from New York on May 22 in that year in search of Sir John Franklin (q.v.). On the return of the expedition, Kane published *The United States Grinnell Expedition in Search of Sir John Franklin—a Personal Narrative*. On May 31, 1853, the *Advance* alone, under Kane's command, sailed again from New York to resume the search, and proceeding up Baffin's Bay and through Smith Sound, reached lat. 78° 43' N. Here the *Advance* remained frozen up for 21 months, and was finally abandoned because provisions were becoming scarce and scurvy and other diseases had made their appearance. The object now was to reach the Danish settlements in Greenland, about 1,300 miles distant. This long and perilous journey, partly in boats and partly in sledges, was accomplished, after 10 weeks of severe privation, with the loss of only one man, and that by an accident. In 1856 Kane published *The Second Grinnell Expedition*, and was awarded

gold medals from Congress, the New York legislature and the Royal Geographical Society. Consult Elder, *Biography of Elisha Kent Kane* (1857); Greely, *American Explorers* (1894).

KANE, John Kintzing, American jurist: b. Albany, N. Y., May 16, 1795; d. Philadelphia, Pa., Feb. 21, 1858. He was graduated from Yale in 1814, was admitted to the bar in 1817, entered practice in Philadelphia, was elected to the Pennsylvania legislature as a Federalist in 1823, later became a Democrat, and supported Jackson in the canvass of 1828. In 1845 he became attorney-general of Pennsylvania, in 1846 United States district judge for Pennsylvania, in 1856 president of the American Philosophical Society. He won distinction by his legal attainments and his decisions in patent and admiralty law, but his commitment of Passmore Williamson for contempt of court in an action under the Fugitive Slave Law was attacked by the Abolitionists.

KANE, Paul, Canadian artist: b. Toronto, 1810; d. 1871. He received his early art education at Upper Canada College, and was inspired with the ambition to depict the Indians. After spending some years in the United States, he went to Europe in 1841, studied art in Italy, and returned to Toronto in 1845. He made a transcontinental journey in 1846-47, in the course of which he visited many of the western tribes, and brought back with him some hundred sketches of great ethnological value, and developed later into an important series of paintings of Indian life and western scenery. In 1859 he published the literary result of his travels, *Wanderings of an Artist among the Indian Tribes of North America*, illustrated by his own sketches.

KANE, Sir Robert John, Irish chemist: Dublin, Ireland, Sept. 24, 1809; d. there, Feb. 1, 1890. He was educated for the medical profession and in 1832 became a member of the Royal Irish Academy. In the same year he founded the *Dublin Journal of Medical Science* and was its editor for two years. From 1834 to 1837 he was professor of natural philosophy in the Royal Dublin Society; in 1846 originated the Museum of Industry in Ireland. He was knighted the same year, was president of Queen's College, Cork, for several years prior to his resignation in 1873, and in 1876 was elected president of the Royal Irish Academy. He wrote *Elements of Chemistry* (1842); *Industrial Resources of Ireland* (1884), etc.

KANE, Pa., borough in McKean County; alt. 2,013 feet; on the Pennsylvania, and the Baltimore and Ohio railroads; 94m. SE. of Erie. It lies on the eastern boundary of the Allegheny National Forest. There are deposits of oil, gas, and silica near by. Industry here is well diversified; brush handles, wooden toys and Venetian blinds are made. Shirts, silk garments, leather baggage, and wire glass are additional products of the local mills and factories. Kane has a Little Theater, a public library, and an armory. Winter sports, especially skiing, attract visitors. The borough is also an attractive summer resort. First settled in 1859, it was named in honor of its founder, Gen. Thomas L. Kane (1822-83), who served as an officer in the Union army in the Civil War, commanding a brigade at Gettys-

burg. Government is by burgess and council. Pop. (1940) 6,133; (1950) 5,706.

KANEKO, kã'nã-kô (VISCOUNT) **Kentaro**, Japanese statesman: b. Fukuoka, 1853. He came of an old Samurai family, and received foreign education in the United States, being graduated from the Harvard Law School in 1878. He began his career as a professor in the school that was the forerunner of the Tokio Imperial University. In 1885 he became private secretary to Prince Ito, then Premier of Japan; was sent abroad for the purpose of investigating constitutional systems; served as president of the Privy Council (1888-90), and chief secretary of the House of Peers, 1890. Two years later, he was a delegate to the International Law Conference in Switzerland. He was vice-minister for agriculture and commerce in 1894; minister of the same department in 1898, and in 1900 Minister of Justice. During the Russo-Japanese War (1904-05) he was non-official representative of his government in this country, and a powerful factor in effecting the peace negotiations at Portsmouth. He was made Privy Councillor in 1890. D. May 16, 1942.

KANGAROO. See MARSUPIALIA.

K'ANG-HI, or **KANG-HSI**, the second emperor of the Ta Tsing dynasty established in China by the Manchu Tartars: b. 1655; d. 1722. He began to reign in 1661, under a regency and assumed the reigns of government in 1669, when only 14 years of age. When he was 19 he was forced to face a rebellion of the Chinese under Wu San-Kuei, which spread throughout the whole vast empire. But K'ang-Hi struggled against many very great difficulties and was finally successful in restoring the country to order and in even extending his authority to Khokand, Badakhshan and Thibet. He proceeded to consolidate his power by increasing the number of provinces to 18 and extending his dominion most intimately over each of them. The Jesuits, who were welcomed by him, contributed to his victories by supplying him with the most modern cannon and arms then in use in Europe, and to the scientific glories of his court by the reformation of the calendar (1669), the taking of a complete census and the surveying of the whole empire. Under these and other influences K'ang-Hi became a great and consistent patron of art and literature. In this field his energies, very active at court, extended to other literary centers of the empire. So strong became the influence of the Jesuits that Christianity was officially recognized in 1692. A break, however, occurred with Rome in 1698, when the Pope decided against ancestor worship to which the emperor clung tenaciously as a vital part not only of his religious faith but also of his family creed. The breach between the emperor and Rome continued to widen until finally the former issued an edict banishing from the country all the Christian missionaries who dared to differ from his own expressed opinion on these or other matters. Among the literary activities patronized by K'ang-Hi and supervised by him were the great Imperial Dictionary of Chinese; a concordance to all Chinese literature (*Pei-Wên-Yun-Foo*) in 110 large volumes; two great encyclopaedias, the largest of which (the *Ku-Kin T'oo Shu-Ts'ih-Ching*) consists of

over 5,000 volumes. For this latter vast undertaking movable copper type was used. These, though the most notable, were only a few of his many art and literary activities. He encouraged commerce with foreigners and granted permission to the East India Company to establish an agency in China (1677).

K'ANG TE or **KANG TEH**. See HSÜAN T'UNG.

K'ANG YU-WEI, käng' yō'wā', Chinese scholar and reformer: b. Nanhai, Kwangtung Province, March 19, 1858; d. Tsingtao, March 31, 1927. Coming under the influence of the missionaries, he became greatly interested in Western history and philosophy, of which he made a deep study. This led him to become leader of a reform party in China. His lectures and leaflets attracted wide attention, his influence spreading to all the provinces and becoming especially strong in the schools of higher learning. This brought him to the attention of the imperial court, and in 1898 he became one of the principal advisers of Emperor Kuang Hsü. The famous reform decrees of that year were inspired by his counsel, and when they proved a failure Empress Dowager Tzu Hsi secured his proscription. He fled the country in order to escape execution, and for the next 16 years he was in exile. Wandering about from Hong Kong to Singapore and other places in the Orient, he organized the Pao Huang Hwei (Empire Reform Society), the object of which was to modernize China. He also visited Great Britain and the United States, and other countries where the Chinese were in strength, and during 1911-1912 he took an active part in promoting the movement which resulted in overthrow of the monarchy and the establishment of the republic. In 1914 he returned to China, but he was still an ardent monarchist and hoped to see Confucianism adopted as the religion of the state. During 1917 he was one of the leaders in the attempt to restore Emperor Hsüan T'ung to the throne, and in the Cabinet then formed he was given the post of vice minister of the interior. When this monarchist coup failed he fled for safety to the foreign legations in Peking (Peiping), and thence made his way to internationalized Shanghai. There he lived in retirement until the end of his life, writing, lecturing, and collecting ancient pottery, porcelain, and other objects of art. He was termed "the Rousseau of China" and "the Modern Sage." Among his published works are *A New Commentary on the Chinese Classics* and *Modern Japan*.

KANGAR, käng'gär, town, Federation of Malaya, capital of the state of Perlis, on the Perlis River 25 miles north-northwest of Alor Star. It is served by the main line of the Malayan Railway. Pop. (1948) 3,948.

KANGAROO, a native name for a large hopping marsupial mammal found in Australia and a few neighboring islands. Its discovery is usually accredited to Captain James Cook in 1770, though it is now known to have been described by a Dutch navigator, Pelsart, as early as 1629. To most persons the name kangaroo connotes the large gray species of the genus *Macropus* (great foot) commonly seen in zoological gardens, but the family Macro-

podidae comprises a diversified assemblage of over one hundred species and subspecies, some small and rat-like, some as tall, when standing, as a man, and one genus of tree-living forms. The family belongs in the great subordinal group of vegetable-eating marsupials called Diprotodontia in reference to their having a single pair of front teeth or incisors in the lower jaw. These teeth are long and directed forward, with bladelike edges, which, shearing against the upper incisors, are efficient for cropping grass. The kangaroos feed chiefly on vegetable matter and the stomach (except in the primitive musk kangaroo mentioned below) is sacculated as in some other herbivorous mammals. The most striking feature, especially of the large "typical" kangaroos, is the small size of the anterior part of the body and the fore legs, together with the enormously enlarged hind legs and the long powerful tail, adaptations for progression by hopping. The strongly clawed fore feet are used as hands. The hind feet are greatly specialized for leaping, with the fourth toe enormously elongated, the fifth moderately so, the second and third united so as to appear like a single toe with two claws, (a condition called syndactyly, which is found in diprotodonts in general). The first toe, or hallux, is lacking in all except the primitive *Hypsiprymnodon*, mentioned below. A kangaroo



Kangaroo

in the standing position is supported by the hind feet and the tail. When moving slowly the short fore legs and the tail form a tripod briefly supporting the body while the hind feet are swung forward together. In rapid motion by hopping the fore feet do not touch the ground, and the powerful tail functions as a balancer and rudder. Some species can leap more than twenty feet. In fighting the kangaroo uses the tail as a prop, seizes its opponent with its hands, and delivers powerful downward slashing kicks with the strongly clawed hind feet. Dogs are sometimes killed in this manner. The marsupial pouch, on the abdomen, contains four teats, but usually only a single offspring is born. As in all marsupials the young at birth is almost incredibly small, and it was long believed that the mother transferred it to the pouch with her mouth. However, a considerable number of thoroughly reliable observations leave no doubt that the newborn kangaroo, aided by precociously developed claws on the fore feet, crawls or wriggles over the mother's fur, enters the pouch and applies its mouth to a teat all by its own efforts. Even in the larger kangaroos the newborn measures barely $\frac{3}{4}$ inch from nose to root of tail, slightly less than the house mouse at birth. The baby kangaroo remains attached to the teat for some weeks, and for several months it sleeps and spends more or less time in the marsupium.

The "typical" kangaroos, the nearly related wallabies and the remarkable tree kangaroos.

Perodolagus, which have become secondarily adapted to arboreal life, are placed in a subfamily, Macropodinae. A second subfamily, the Potoroidae, comprises the rabbit-sized rat kangaroos, or less adapted for leaping, and feeding chiefly on roots and underground fungi. One genus, *Settongia*, has a prehensile tail with which it carries grass to its nest. The most primitive member of the kangaroo family is the small rat-like musk kangaroo, *Hypsiprymnodon*. It is the only genus which retains the hallux or first digit of the hind foot, and which has a nonsacculated stomach, probably related to its diet, largely of insects and worms. It seems to represent a link with the Phalangers (q.v.).

See bibliography under MARSUPIALIA; and consult Froughton, E., *The Furred Animals of Australia* (New York 1947).

KANGAROO RAT, a small jumping rodent, *Dipodomys*, several species of which inhabit arid regions of western North America. They resemble, superficially, the jerboas (q.v.) of the Old World in having greatly elongated hind legs and tail. They have the habit of excavating extensive burrows in which they spend the daylight hours, coming forth at sundown to feed on plant material and to collect food, especially various seeds, which are carried home in external cheek pouches and stored in the burrow for winter use.

KANGWHA, käng'wä', island, Korea, at the mouth of the Han (Kan) River. Guarding the waterway to Seoul (Kyongsong, Keijo), the capital, it is of considerable importance. French forces attacked it unsuccessfully in 1866, but the forts were captured in 1871 by American sailors under Winfield Scott Schley (q.v.) from the squadron commanded by John Rodgers. In 1875 the Japanese also stormed and took the forts.

KANITZ, ká'nits, **Felix Philipp**, Hungarian archaeologist, ethnologist and art historian: b. Budapest, Aug. 2, 1829; d. Vienna, Jan. 5, 1904. Well educated and possessing private means, he traveled through Germany, Belgium, France and Italy and the South Slavic countries, devoting his time and attention, for the most part, to the study of the archaeology, art and ethnology of these countries. Among his published works are *Die römischen Funde in Serbien* (1861); *Katechismus der Ornamentik* (1870); *Das Königreich Serbien* (1904-1914).

KANKAKEE, käng-kä-ké', city, Illinois, and Kankakee County seat; on the Kankakee River; 4 miles southwest of Chicago; served by the Illinois Central and the New York Central railroads. Kankakee is a thriving industrial community and an important retail and shipping point for one of the richest agricultural regions in the world, the famous Illinois corn belt. Proximity to the great grain markets of Chicago is one of Kankakee's chief assets, while at the same time it has achieved in its own right a high commercial status. In addition to the fertile prairie soil, the natural resources of the section comprise limestone quarries, and the water power of the Kankakee River at this point has contributed appreciably to the city's development as an industrial center. Manufactures include furniture, stoves, textile machinery, foundry products, brick, tile, cut stone, knit goods, hosiery, paint,

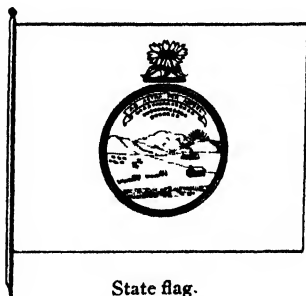
farm implements, venetian blinds, and neon signs; and there are extensive railroad shops. The Kankakee State Hospital for the insane, established here in 1878, was one of the pioneers in cottage treatment and organized recreation in the care of mental patients. In the Central High School are 45 sculptures by George Gray Barnard, given by him to the school he had attended. Olivet Nazarene College, a coeducational school founded in 1907, is located here. The city's early history is closely associated with that of Bourbonnais, three miles to the north and now the seat of Olivet Nazarene College. Bourbonnais was the first settlement on the Kankakee River, dating from 1832. With the coming of the railroad in the early 1850's, Kankakee was formally laid out, and incorporation followed in 1855. Pop. (1940) 22,241; (1950) 25,856.

KANKAKEE, a river of northern Illinois, approximately 250 miles long, which has its rise in English Lake, Starke County, in northern Indiana, flows west and southwest and enters Kankakee County in Illinois. From where it receives the waters of the Iroquois from the south, the course changes to the northwest until it enters Grundy County, where it unites with the Des Plaines River to form the Illinois River.

KANNAPOLIS, kă-năp'ô-lis, unincorporated town, North Carolina, in Cabarrus and Rowan counties; 29 miles northeast of Charlotte; on the Southern Railway; founded by J. W. Cannon, Sr., in 1906. It has towel, bed linen, and blanket mills. Pop. (1950) 28,448.

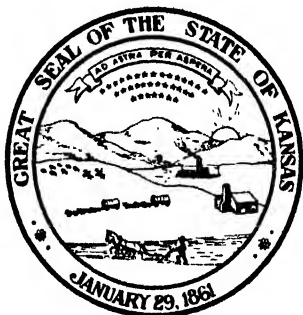
KANO, kă'nô, in the British protectorate of northern Nigeria, (1) capital city of Kano Province which was annexed by Great Britain in 1903. Kano, 500 miles northeast of Lagos, is the start of many caravan routes and is the chief market and center of trade for the interior of Africa. It is located on a plateau at an altitude of 1,570 feet. Leather, brass, pottery, and cotton goods are extensively manufactured, and dyeing is carried on. On account of its industries Kano has been called the Manchester and Birmingham combined of the Dark Continent. The city has been a market center for over 1,000 years. The objectionable feature of the old market was the trade in slaves, but that disappeared under British rule. The wall surrounding Kano is 12 miles in circumference, is 40 feet thick at the base, and from 40 to 50 feet in height. The houses are chiefly of adobe and the streets are wide and clean. Kano was occupied by a British punitive expedition in 1903. There are Koranic schools, a Moslem law school, a modern hospital, and a mosque located here. Pop. (est. 1952) 130,000. (2) Kano, province of northern Nigeria, British West Africa, has an area of 17,602 square miles. It is said to have the densest population in Nigeria. The chief occupations are agriculture and stock raising, and the principal crops are corn, cotton, peanuts, and millet, much of which is exported. The average rainfall in Kano is from 30 to 40 inches a year; October to April is the dry season. The ruling class are the Fulahs, although the Hausas are in the majority. Efforts to Christianize the province have, in the main, failed and the majority of the people are Mohammedans. The province was one of the original Hausa states. See also Sokoto. Pop. (1931) 2,436,844.

KANSAS, kăn'zās, a Central state lying approximately in the geographic center of the United States. It is bounded on the north by Nebraska; on the northeast and east by Missouri; on the south by Oklahoma; and on the west by Colorado. The state was named for the Kansa tribe of Siouan Indians. When Europeans first became acquainted with the lower Missouri Valley, these Indians occupied what became northeastern Kansas, together with country to the northeastward.



State flag.

Land area	82,108 square miles
Water area	168 square miles
Total area	82,276 square miles
Latitude	37°—40° N.
Longitude	94°38'—102°1'34" W.
Altitude	700 to 4,135 feet
Population (1950)	1,905,299
Population (estimate for July 1, 1952)	1,971,000
Capital city—Topeka; Pop. (1950)	78,791
Admitted as a state	Jan. 29, 1861
Bird	Western Meadow Lark
Flower	Sunflower, approved March 12, 1903
Motto— <i>Ad Astra per Aspera</i> (To the stars through difficulties)	
Nicknames—Sunflower State, Jayhawker State, Wheat State	
Song	<i>Home on the Range</i>
Tree	Cottonwood



State seal.

Physical characteristics.—Topography.—Contrary to the prevailing opinion among those not personally acquainted with Kansas, the surface is not a monotonously level plain. It slopes eastward and southeastward from approximately 4,000 feet altitude near the northwestern corner to about 700 feet near the southeastern corner, or, from west to east, an average of more than seven feet per mile. The eastern third of the state (roughly, east of a line drawn through Abilene and Wichita), presents a wide variety of hills, but little level land, and is known to geographers as the Osage Plains. Originally, timber, such as oak, hickory, and walnut, with cottonwood in the wet bottoms, was found along all the streams as far west as the 97th meridian. Northeastern Kansas has glacial deposits, whose southernmost point is marked by boulders sev-

eral miles south of the Kansas River, near Lawrence. The bluestem pasture region occupies most of the western half of this eastern third of the state. It has been left in grass largely because of the rough topography associated with major rock outcrops such as the Flint Hills and the Chautauqua Hills. At the north, it includes most of Riley and Pottawatomie counties, and at the south, Cowley and Chautauqua counties in Kansas, and Osage County in Oklahoma. The central third of the state has much level land as well as hills. To the northward are the Smoky Hills Uplands, whose eastern slopes expose outcrops of Dakota sandstone. Further west are the Blue Hills Uplands. The Great Bend Prairie lies in the south central part of the state dominated by the Great Bend section of the Arkansas River. Sand hills are found in several places, especially along the south side of the Arkansas River, and at points along the Cimarron River and elsewhere. The High Plains, which comprise roughly the western third of the state, are much dissected and reshaped in Kansas by successive crust-warping movements, accumulation, and erosion, being covered to varying depths with materials transported by water and wind.

Geology.—The geological history must be described from the bottom upward. Above the pre-Cambrian granites and similar crystalline basement rocks lie the Cambrian and Ordovician formations, the latter being oil bearing. None of these rocks are exposed at the surface. Next higher in the Kansas geological series are Mississippian rocks, which are exposed only at the extreme southeastern corner of the state. They bear lead and zinc, as well as oil and gas. Above these are the Pennsylvanian rocks, formerly called the Coal Measures, whose outcrops occupy, at the surface, the eastern one fourth of the state. Although the surface slopes eastward and southeastward at an average rate of 25 feet per mile. The harder rocks, especially the limestones, form eastward-facing escarpments, which trend northeast to southwest across the state. Several coal formations occur in this series, the Cherokee group at the southeastern corner of the state being the oldest, the thickest, and of the highest quality. The Wabauunsee group is the uppermost of the Pennsylvanian strata, its exposures extending from Atchison County, near the northeastern corner, to the south line of the state in Cowley and Chautauqua counties. Permian rocks outcrop in east central Kansas, the Flint Hills escarpment forming the eastern exposure of this system. —The Permian series contains some gypsum and large salt deposits at minable depths. Above these are Cretaceous strata; the lower, especially the Dakota sandstone group, which occupies the Smoky Hills Uplands in north central Kansas, bear lignite coal. Tertiary and later deposits are represented in the High Plains, the erosion of the valleys exposing, at some points, Cretaceous or older strata.

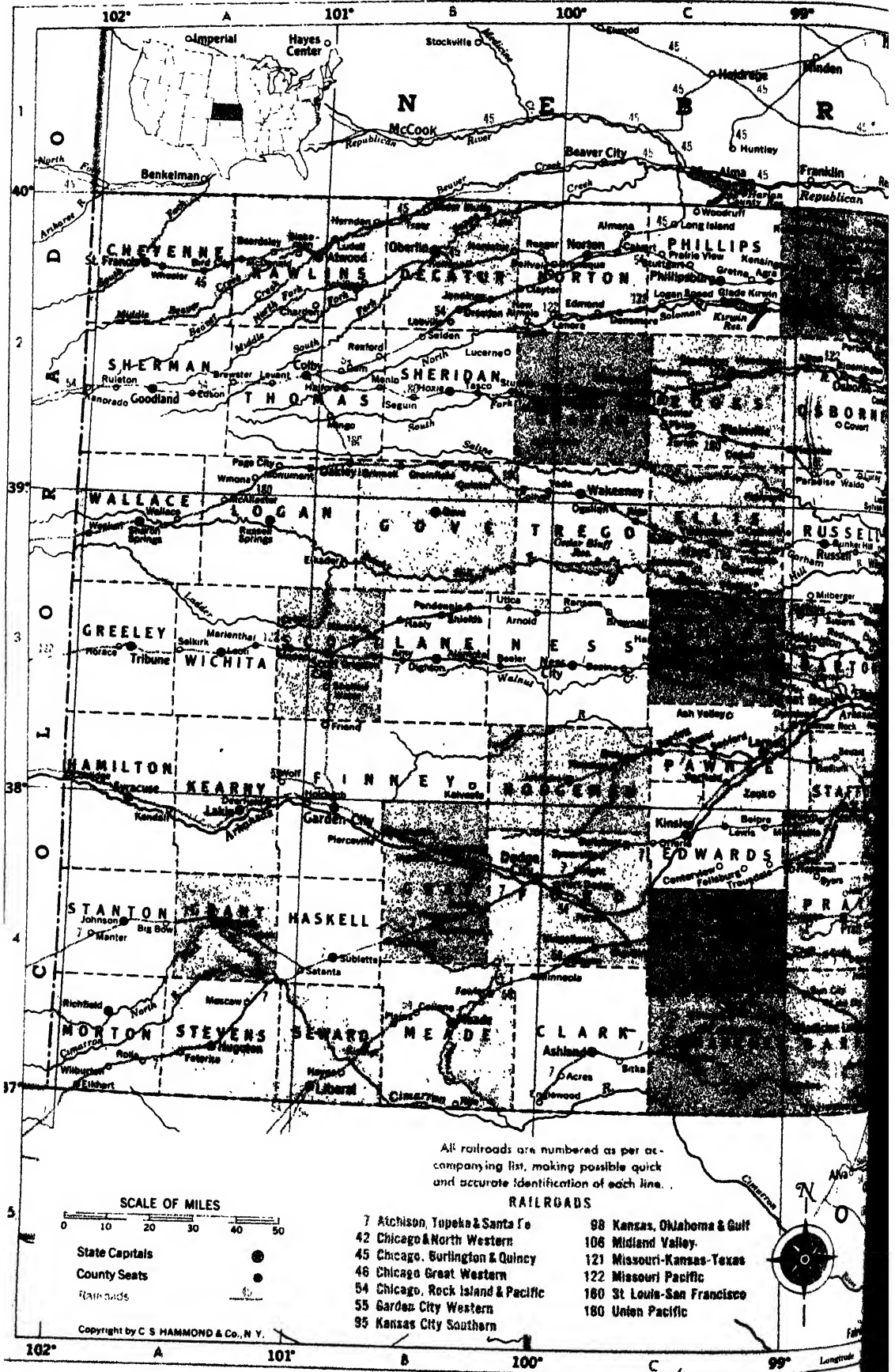
Climate.—The climate of Kansas is subject to wide fluctuations characteristic of interior continental areas. Rainfall diminishes from an annual average of 40 inches in the southeast to 15 inches at the western boundary, and in seasonal distribution, 68 per cent of it falls in the east and 77 per cent in the west between April and August, inclusive. The growing season of frost-free days averages 186 days near the southeastern

Abbyville (D4).....	99	Bison (C3).....	526
Abbeville (E3).....	3,776	Black Wolf (D6).....	23
Achilles (B2).....	175	Blaine (F2).....	45
Ada (E2).....	48	Blair (H2).....	120
Adams (E4).....	45	Bloom (C4).....	125
Admiral (F3).....	184	Bloomington (D2).....	180
Aetna (D4).....	40	Blue Mound (H3).....	424
Agenda (E2).....	159	Blue Rapids (F2).....	1,450
Agua (C2).....	354	Bluff City (E4).....	172
Agriola (G3).....	30	Bogue (C2).....	211
Alamota (B3).....	39	Boicourt (H3).....	30
Albert (C3).....	218	Bonner Spgs. (H2).....	2,277
Alden (D3).....	286	Bradford (F3).....	25
Alexander (C3).....	188	Brantford (E2).....	23
Alleville (G3).....	100	Brazilton (H4).....	75
Allen (F2).....	81	Bremen (F2).....	80
Allen (F3).....	10	Brenham (C4).....	21
Allen (F5).....	241	Brewster (A2).....	467
Alms (C2).....	718	Bridgeport (E3).....	53
Almena (F2).....	618	Bronson (H4).....	413
Alta Vista (F3).....	420	Brookville (E3).....	213
Altamont (G4).....	652	Broughton (E2).....	96
Alton (D2).....	317	Brownell (C3).....	211
Altونا (G4).....	582	Buckeye (E2).....	15
America City (F2).....	10	Bucklin (C4).....	824
Americus (F3).....	339	Bucyrus (H3).....	131
Ames (E2).....	67	Buffalo (G4).....	437
Amy (B3).....	35	Buville (G4).....	50
Andale (E4).....	316	Buhler (E3).....	750
Andover (E4).....	250	Bunker Hill (D3).....	271
Angola (G4).....	50	Burden (F4).....	541
Anness (E4).....	11	Burdett (C3).....	355
Anson (E4).....	50	Burdick (F3).....	110
Antelope (F3).....	40	Burlingame (G3).....	1,065
Anthony (D4).....	2,792	Burlington (C3).....	2,304
Antonino (C3).....	75	Burns (F3).....	294
Aracida (H4).....	572	Burr Oak (D2).....	505
Argonia (E4).....	582	Burrton (E3).....	749
Arkansas (riv.) (D3).....		Burby (G4).....	35
Arkansas City (E4).....	12,903	Hurst (F4).....	42
Arlington (D4).....	405	Rush City (G3).....	65
Arma (H4).....	1,334	Bushong (F3).....	93
Arnold (B3).....	108	Buiston (D3).....	532
Attington (G2).....	50	Byers (D4).....	83
Ash Grove (D2).....	55	Caaro (D4).....	40
Asherville (D2).....	105	Caldwell (E4).....	2,000
Ashland (E4).....	1,493	Calista (D4).....	12
Ashton (B4).....	45	Calvert (C2).....	22
Asvarya (E3).....	221	Cambridge (F4).....	221
Atchison (C2).....	12,792	Canada (E3).....	38
Atchul (D2).....	203	Caney (G4).....	2,876
Atlanta (F4).....	309	Canton (E3).....	771
Atitica (D4).....	622	Carbondale (G3).....	453
Atwood (B2).....	1,613	Carlton (E3).....	78
Auburn (G3).....	110	Carlyle (G4).....	45
Augusta (F4).....	4,483	Carneiro (D3).....	55
Auline (E3).....	182	Carona (H4).....	175
Aurora (E2).....	221	Cassoday (F3).....	150
Attell (F2).....	510	Castleton (E4).....	64
Baileyville (F2).....	150	Catharine (C3).....	218
Bala (F2).....	50	Cawker City (D2).....	681
Baldwin City (G3).....	1,741	Cedar (D2).....	89
Rancroft (G2).....	26	Cedar Bluff (res.).....	
Batavia (G3).....	47	(C3).....	
Barker (H2).....	735	Cedar Bluffs (B2).....	45
Barnard (D2).....	242	Cedar Point (F3).....	107
Barnes (E2).....	308	Cedar Vale (F4).....	1,010
Bartlett (G4).....	143	Centerville (C4).....	30
Bascher (G2).....	275	Centerville (H3).....	155
Bassett (G4).....	117	Centralia (F2).....	574
Bavaria (B3).....	90	Chanute (G4).....	10,109
Baxter Spgs. (H4).....	4,647	Chapman (E3).....	990
Bazaar (F3).....	84	Charleston (B4).....	12
Bazine (C3).....	456	Chase (D3).....	961
Beagle (G3).....	150	Chautauque (F4).....	215
Beardsley (A2).....	30	Cheney (E4).....	777
Beattie (F2).....	321	Cherokee (H4).....	849
Beaumont (F4).....	150	Cherryvale (G4).....	2,952
Beaver (D3).....	118	Chetopa (G4).....	1,671
Beaver (creek) (A2).....		Chicopea (H4).....	250
Beeler (B3).....	100	Chikaskia (riv.) (E4).....	
Bellare (D2).....	55	Chiles (H3).....	20
Belle Plaine (E4).....	971	Cimarron (B4).....	1,189
Bellefont (C4).....	35	Cimarron (riv.) (B4).....	
Bellefont (E2).....	2,858	Circleville (G2).....	929
Belmont (D4).....	48	Claflin (D3).....	161
Beloit (D2).....	4,035	Claudell (C2).....	255
Belpre (C4).....	231	Clay Center (E2).....	4,528
Belvidere (C4).....	52	Clayton (B2).....	157
Belvue (F2).....	183	Cleawater (E4).....	647
Belladuna (G2).....	94	Cleburne (F2).....	150
Benedict (G4).....	176	Clements (F3).....	75
Bennington (E2).....	325	Clifton (E2).....	7

Eureka (F4).....	3,958	Havensville.....	
Everest (G2).....			
Fall River (G4).....	436	Healy (B3).....	250
Fall River (res.) (F4)	261	Hedville (E3).....	209
Falun (E3).....	92	Heizer (D3).....	39
Farrington (H4).....	96	Hepler (H4).....	100
Farrinville (H3).....	15	Herrington (E3).....	224
Faulkner (H4).....	36	Herkimer (F2).....	3,775
Fellsburg (C4).....	43	Hernon (B2).....	120
Feterita (A4).....	10	Heston (E3).....	321
Florence (E3).....	1,009	Hewins (F4).....	686
Flush (F2).....	304	Hillville (H4).....	200
Fontana (H3).....	168	Hickwa (G2).....	150
Ford (C4).....	244	Hickok (A4).....	3,294
Formoso (D2).....	271	Higland (G2).....	37
Fort Dodge (C4).....	500	Hill City (C2).....	717
Fort Leavenworth		Hillsboro (E3).....	1,432
(H2).....		Hilltop (F3).....	2,150
Fort Riley (F2).....	15	Holington (D3).....	4,012
Fort Scott (H4).....	2,531	Holcomb (B3).....	206
Fortoria (F2).....	100	Holland (E3).....	50
Fowler (B4).....	778	Hollenberg (F2).....	97
Frankfort (F2).....	1,237	Hollis (E2).....	49
Franklin (H4).....	600	Holt (G2).....	2,705
Frederick (D3).....	53	Holyrod (D3).....	748
Fredonia (G4).....	3,257	Home (F2).....	200
Freeport (E4).....	30	Homewood (G3).....	80
Friend (B3).....	44	Hope (E3).....	480
Frontenac (H4).....	1,569	Howell (D4).....	26
Fulton (H4).....	243	Horace (A3).....	258
Furley (E4).....	75	Horton (G2).....	2,354
Galatia (D3).....		Howard (F4).....	1,149
Galea (H4).....	4,029	Hoxie (B2).....	1,157
Galesburg (G4).....	189	Hoyt (G2).....	246
Galva (E3).....	426	Hudson (D3).....	194
Garden City (B4).....	10,905	Hugoton (C4).....	2,781
Garden Plain (E4).....	323	Humboldt (G4).....	2,308
Gardner (H3).....	678	Hunneville (E4).....	103
Garfield (C3).....	287	Hunter (D2).....	236
Garland (H4).....	290	Huron (G2).....	128
Garnett (G3).....	2,693	Hutchison (C3).....	33,375
Garrison (F2).....	80	Hymet (F3).....	10
Gas (G4).....	294	Idana (E2).....	115
Gaylord (D2).....	231	Independence (G4).....	11,335
Gem (B2).....	118	Industry (E2).....	100
Geneseo (D3).....	680	Ingalls (B4).....	173
Gerlane (D4).....	2	Inman (E3).....	615
Geuda Spgs. (E4).....	245	Iola (G4).....	7,094
Girard (C4).....	2,428	Ionia (D2).....	180
Glade (C2).....	107	Iowa Point (G2).....	110
Glascio (E2).....	803	Irvine (F2).....	279
Glen Elder (D2).....	582	Isabel (D4).....	205
Glendale (E3).....	35	Iuka (D4).....	129
Glenloch (G3).....		Jamestown (E2).....	494
Goddard (E4).....	274	Jarballo (G2).....	75
Goessel (E3).....	310	Jefferson (G4).....	50
Goff (G2).....	275	Jennings (B2).....	330
Goodland (A2).....	4,400	Jettmore (B3).....	986
Goodrich (G3).....	50	Jewell (D2).....	593
Gordon (F4).....	75	Jingo (H3).....	12
Gorham (D3).....	375	Johnson (C4).....	994
Gove (B3).....	206	Junction City (E2).....	13,462
Grainfield (B2).....	371	Kackley (E2).....	60
Grantville (G2).....	100	Kalvesta (B3).....	49
Gray (C3).....	12	Kanona (B2).....	25
Great Bend (D3).....	12,665	Kanopolis (D3).....	743
Greely (G3).....	436	Kanopolis (res.) (D3).....	
Green (E2).....	219	Kanorado (A2).....	285
Greenleaf (E2).....	614	Kansas (riv.) (F2).....	
Greensburg (C4).....	1,723	Kansas City (H2).....	129,553
Greenwich (F4).....	50	Keats (F2).....	105
Grenola (E4).....	380	Kechi (E2).....	21
Gretina (C2).....	12	Keighley (F4).....	26
Gridley (G3).....	360	Kelly (G2).....	150
Grignon (B3).....	35	Kendall (F3).....	50
Grinnell (B2).....	364	Kendall (C2).....	123
Groveland (E3).....	10	Kennington (C2).....	635
Gypsum (E4).....	523	Kickapoo Ind. Res.	
Haddam (E2).....	375	(G2).....	
Haggard (E4).....	42	Kimbal (G4).....	67
Hale (F4).....	8	Kimcard (G3).....	309
Halford (B2).....	6	Kingman (D4).....	3,200
Halford (H4).....	223	Kingdown (C4).....	125
Halls Summit (G3).....	62	Kinsley (C4).....	2,479
Hallville (E3).....	5	Kiowa (D4).....	1,561
Halstead (E4).....	1,328	Kipp (E3).....	50
Hamilton (F4).....	456	Kirwin (C2).....	374
Hamiln (G2).....	118	Kismet (B4).....	1,769
Hammond (H4).....	62	La Crosse (C3).....	704
Hanover (F2).....	854	La Cygne (G4).....	511
Hanson (C3).....	286	Labette (C4).....	145
Hardner (D4).....	373	Ladder (creek) (A3).....	145
Hargrave (C3).....	8	Lafontaine (G4).....	185
Harlan (D2).....	125	Lake City (D4).....	185
Harper			

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KANSAS



KANSAS (Continued)

1950 Total Population 1,905,299

Lamont (F3).....	100	Mildred (G3).....	79	Paola (H3).....	3,972	St. Marys (G2).....	1,301	Ulysses (A4).....	2,343
Lancaster (G2).....	200	Millford (F2).....	284	Paradise (D2).....	145	St. Paul (G4).....	783	Uniontown (G4).....	232
Lane (G3).....	200	Miller (F3).....	67	Parallel (F2).....	15	St. Peter (B2).....	100	Upland (E3).....	25
Langdon (D4).....	128	Milton (E4).....	100	Park (B2).....	223	Salina (E3).....	26,176	Urbana (G4).....	25
Langley (D3).....	75	Miltonvale (E2).....	811	Parker (H3).....	251	Saline (riv.) (D3).....	50	Utica (B3).....	70
Lansing (H2).....	1,100	Minneapolis (E2).....	1,801	Parkville (F3).....	78	Sanford (C3).....	50	Valeda (G4).....	365
Larkinburg (G2).....	99	Minneola (C4).....	660	Parsons (G4).....	14,750	Sappa (creek) (B2).....	155	Valley Center (E4).....	125
Larned (C3).....	4,447	Mission (H2).....	13,000	Partridge (D4).....	221	Satanta (B4).....	667	Valley Falls (G2).....	1,139
Latham (F4).....	218	Missouri (riv.) (G1).....	85	Pauline (G3).....	131	Savonburg (G4).....	155	Vassar (G3).....	54
Latimer (F3).....	34	Mitchell (D3).....	85	Pawnee (riv.) (B3).....	359	Sawyer (D4).....	223	Vernon (G4).....	80
Lawrence (G2).....	23,351	Modoc (A3).....	56	Pawnee Rock (D3).....	186	Saxman (D3).....	33	Vermillion (F2) (G5).....	283
Lawton (H4).....	85	Moline (F4).....	871	Paxico (F2).....	194	Scammon (H4).....	561	Vernon (G4).....	45
Le Loup (G3).....	110	Monrovia (G2).....	20	Peabody (E3).....	1,194	Scandia (E2).....	611	Vesper (D2).....	100
Le Roy (G3).....	695	Mont Ida (G3).....	50	Peck (E4).....	89	Schoenchen (C3).....	170	Victoria (C3).....	988
Leavenworth (H2).....	20,579	Montezuma (B4).....	509	Penalosa (D4).....	71	Scott City (B3).....	3,204	Vilas (G4).....	34
Leawood (H3).....	1,167	Montrose (D2).....	106	Pendennis (B3).....	10	Scottville (D2).....	108	Vine Creek (E2).....	13
Lebanon (D2).....	610	Monument (A2).....	160	Penokee (C2).....	90	Scranton (G3).....	147	Vining (E2).....	188
Lebo (G3).....	575	Moran (G4).....	616	Peoria (G3).....	40	Sedan (F4).....	1,040	Vinland (G3).....	68
Lecompton (G2).....	263	Morehead (G4).....	70	Perry (G2).....	399	Sedgwick (E4).....	732	Viola (E4).....	132
Lehigh (E3).....	240	Morganville (E2).....	278	Perth (E4).....	75	Seguin (B2).....	12	Virgil (F4).....	354
Lenora (C2).....	511	Morland (B2).....	287	Peru (F4).....	368	Selden (B2).....	438	Viets (F2).....	79
Leon (F4).....	518	Morrill (G2).....	362	Petrolia (G4).....	125	Selkirk (A3).....	100	Voda (C2).....	30
Leona (G2).....	130	Morrowville (E2).....	229	Pfeifer (C3).....	156	Selma (G3).....	45	Volland (F3).....	20
Leonardville (F2).....	320	Morse (H3).....	80	Phillipsburg (C2).....	2,589	Seneca (F2).....	1,911	Wabunsee (F2).....	110
Leoti (A3).....	1,250	Moscow (A4).....	222	Piedmont (F4).....	130	Severance (G2).....	197	Wacanda Spgs. (D2).....	20
Leoville (B2).....	100	Mound City (H3).....	707	Pierceville (B4).....	175	Severy (F4).....	477	Wakarusa (G3).....	72
Levant (A2).....	130	Mound Valley (G4).....	566	Pilsen (E3).....	52	Seward (D3).....	130	Wakeeney (C2).....	2,446
Lewis (C4).....	475	Moundridge (E3).....	942	Piqua (G4).....	200	Shady Bend (D2).....	25	Wakefield (E2).....	591
Liberal (B4).....	7,134	Mound Hope (E4).....	473	Pittsburg (F4).....	19,341	Shaffer (C3).....	15	Waldo (D2).....	216
Liberty (G4).....	185	Mulberry (H4).....	779	Plains (B4).....	718	Shallow Water (B3).....	105	Waldron (D4).....	83
Liebertal (C3).....	211	Mullinville (C4).....	410	Plainville (C2).....	2,082	Sharon (D4).....	278	Walker (C3).....	103
Lillis (F2).....	50	Mulvane (E4).....	1,387	Pleasanton (H3).....	1,178	Sharon Spgs. (A3).....	994	Wallace (A3).....	111
Lincoln (D2).....	1,636	Muncie (H2).....	60	Plevna (D4).....	200	Sharpe (G3).....	31	Walnut (G4).....	534
Lincolnvile (F3).....	228	Munden (E2).....	169	Plymouth (F3).....	80	Shaw (G4).....	35	Walnut (creek) (B3).....	534
Lindsborg (E3).....	2,383	Munjoy (C3).....	150	Pomona (G3).....	453	Shawnee (H3).....	845	Walton (riv.) (E4).....	220
Linn (E2).....	395	Murdock (E4).....	120	Portia (D2).....	286	Sherman (H4).....	100	Wamego (F2).....	1,689
Linnwood (G2).....	261	Muscatoh (G2).....	248	Potawatomi Ind. Res. (G2).....	120	Sherman A.F.B. (H2).....	75	Washington (E2).....	1,527
Little Arkansas (riv.) (E3).....	5835	Narka (E2).....	220	Potter (G2).....	465	Shields (B3).....	331	Waterville (E4).....	45
Little Blue (riv.) (E1).....	859	Nashville (D4).....	159	Potwin (F4).....	150	Silver Lake (G2).....	331	Waterville (F2).....	678
Little River (E3).....	82	Natoma (D2).....	775	Powhattan (G2).....	150	Silverdale (F4).....	150	Wathena (H2).....	797
Lone Elm (G3).....	82	Navarre (E3).....	80	Prairie View (C2).....	192	Sitka (C4).....	150	Wauneta (F4).....	75
Lone Star (G3).....	50	Nebraska (riv.) (G1).....	96	Pratt (D4).....	7,523	Skiddy (F3).....	70	Waverly (G3).....	487
Long Island (C2).....	247	Nemaha (riv.) (G1).....	3,723	Prescott (H3).....	283	Smith Center (D2).....	2,026	Wayne (E2).....	60
Longford (E2).....	178	Neodesha (G4).....	3,723	Preston (D4).....	307	Smoky Hill (riv.) (C3).....	180	Webber (D2).....	96
Longton (F4).....	478	Neosho (riv.) (G4).....	355	Pretty Prairie (D4).....	484	Smolan (E3).....	193	Webster (C2).....	130
Loretta (C3).....	30	Neosho Falls (G3).....	204	Princeton (G3).....	177	Soldier (G2).....	180	Weir (H4).....	819
Lorraine (D3).....	195	Neosho Rapids (F3).....	204	Protection (C4).....	814	Solomon (E3).....	834	Welborn (H2).....	3,425
Lost Springs (E3).....	184	Ness City (C3).....	1,612	Purcell (G2).....	50	Solomon (riv.) (E2).....	358	Welda (G3).....	214
Louisburg (H3).....	677	Netawaka (G2).....	213	Quenemo (G3).....	391	S. Haven (E4).....	105	Wellington (E4).....	7,747
Lovesell (F2).....	180	Neutral (H4).....	23	Quincy (F4).....	100	S. Hutchinson (D3).....	1,045	Wells (E2).....	75
Lovewell (D2).....	76	New Albany (G4).....	152	Quinter (B2).....	741	S. Mound (G4).....	50	Wellford (C4).....	58
Lucas (D2).....	631	New Alamo (B2).....	78	Radium (D3).....	64	Sparks (G2).....	129	Wellsville (G3).....	729
Ludell (B2).....	120	New Cambria (E3).....	180	Rago (D4).....	100	Spearville (C4).....	610	Weskan (A3).....	200
Luray (D2).....	351	New Lancaster (H3).....	15	Ramona (E3).....	190	Speed (C2).....	70	West Mineral (H4).....	349
Lyndon (G3).....	729	New Salem (F4).....	63	Randall (D2).....	240	Spivey (D4).....	109	West Plains (Plains) (B4).....	718
Lyons (D3).....	4,545	Newton (E3).....	11,590	Randolph (F2).....	391	Spring Hill (H3).....	619	Westfall (D3).....	75
Macksville (D4).....	624	Nickerson (E3).....	1,013	Ransom (C3).....	405	Stafford (D4).....	2,005	Westmoreland (F2) (H1).....	254
Madison (F2).....	1,212	Niles (E2).....	100	Rantoul (G3).....	197	Stanley (H3).....	300	Westwood (H2).....	1,561
Mahaska (E2).....	179	Ninnescah (riv.) (E4).....	162	Raymond (D3).....	275	Stark (G4).....	157	Wetmore (G2).....	397
Maize (E4).....	286	Niotaze (F4).....	162	Reading (F3).....	289	Sterling (D3).....	2,243	Wheaton (F3).....	134
Manchester (E2).....	151	Norcutt (B2).....	368	Reamsville (C2).....	10	Stillwell (H3).....	209	Wheeler (A2).....	35
Manhattan (F2).....	19,056	North Newton (E3).....	566	Redfield (H4).....	173	Stockdale (F2).....	80	White City (F3).....	540
Mankato (D2).....	1,462	Northbranch (D2).....	60	Redwing (D3).....	50	Stockton (C2).....	1,867	White Cloud (G2).....	308
Manter (A4).....	200	Norton (C2).....	3,060	Reece (F4).....	250	Strawberry (E2).....	11	Whitewater (E4).....	453
Maple City (F4).....	50	Nortonville (G2).....	568	Reno (G2).....	50	Strawn (G3).....	150	Whiting (G2).....	287
Maple Hill (F2).....	178	Norway (E2).....	100	Republic (E2).....	360	Strong City (F3).....	680	Wichita (E4).....	168,279
Mapleton (H3).....	213	Norwich (E4).....	378	Reserve (G2).....	169	Studley (B2).....	73	Wilburton (A4).....	22
Marais Des Cygnes (riv.) (H3).....	110	Oak Valley (G4).....	60	Rexford (B2).....	304	Stull (G3).....	101	Willard (G2).....	95
Marienthal (A3).....	49	Oakhill (E2).....	92	Rice (E2).....	27	Stuttgart (C2).....	100	Williamsburg (G3).....	297
Marietta (F2).....	2,050	Oakley (B2).....	1,915	Richfield (A4).....	105	Sublette (B4).....	838	Williamstown (G2).....	60
Marion (F3).....	666	Oberlin (B2).....	2,019	Richland (G3).....	141	Summerfield (F2).....	305	Willis (G2).....	140
Marquette (E3).....	666	Odin (D3).....	115	Richmond (G3).....	433	Sun City (D4).....	231	Wilmore (C4).....	172
Marshall A.F.B. (F2).....	3,866	Offerle (C4).....	269	Richter (G3).....	25	Sunflower (G3).....	3,834	Wilmot (F4).....	25
Marysville (F2).....	217	Ogallala (C3).....	100	Riga (C3).....	21	Susank (D3).....	100	Wilson (D3).....	1,039
Matfield Green (F3).....	149	Ogden (F2).....	845	Riley (F2).....	414	Sycamore (G4).....	350	Winchester (G2).....	355
Mayetta (G2).....	247	Oil Hill (F4).....	450	Riverdale (E4).....	65	Sylvan Grove (D2).....	506	Windom (E3).....	183
Mayfield (E2).....	134	Olathe (H3).....	5,593	Riverton (H4).....	250	Sylvia (D4).....	496	Winfield (F4).....	10,264
Mc Allister (A3).....	35	Olathe N.A.S. (H3).....	127	Robinson (G2).....	361	Syracuse (A3).....	2,075	Winkler (F2).....	6
Mc Cracken (C3).....	553	Olivet (G3).....	125	Rock (F4).....	124	Talmage (E2).....	250	Winona (A2).....	382
Mc Cune (G4).....	532	Olmitz (D3).....	125	Rock Creek (G2).....	100	Talmo (E2).....	40	Womer (D2).....	15
Mc Donald (A2).....	426	Olpe (F3).....	293	Rolla (A4).....	433	Tampa (E3).....	216	Woodbine (E3).....	195
Mc Farland (F2).....	279	Olburg (F2).....	140	Rosalia (F4).....	100	Tasco (B2).....	16	Woodruff (C2).....	46
Mc Louth (G2).....	477	Onaga (F2).....	882	Rose (G4).....	50	Tecumseh (G2).....	200	Woodston (C2).....	286
Mc Pherson (E3).....	1,689	Oneida (G2).....	138	Rose Hill (E4).....	200	Tescott (E2).....	412	Zenda (D4).....	100
Meade (B4).....	8,763	Opolis (H4).....	160	Rosaville (G2).....	577	Teterville (F3).....	100	Zenith (D4).....	25
Medicine Lodge (D4).....	2,288	Oronoke (C2).....	28	Roxbury (E3).....	145	Thayer (G4).....	423	Zimmerdale (E3).....	39
Medora (E3).....	125	Osage City (G3).....	1,919	Rozel (C3).....	233	Thrall (F3).....	38	Zook (C3).....	18
Melrose (G4).....	100	Osawatimie (H3).....	4,347	Ruleton (A2).....	52	Timken (C3).....	138	Zurich (C2).....	18
Melvorn (G3).....	389	Osborne (D2).....	2,068	Rush Center (C3).....	350	Tipton (D2).....	246		
Menlo (B2).....	113	Oskaloosa (G2).....	721	Russell (D3).....	6,483	Tonganoix (G2).....	1,138		
Mentor (E3).....	44	Oswego (G4).....	1,997	Russell Spgs. (A3).....	161	TOPEKA (G7).....	78,791		
Mercier (G2).....	70	Otis (C3).....	410	Rydal (E2).....	42	Toronto (G4).....	600		
Meriden (G2).....	378	Ottawa (G3).....	10,081	Sabetha (G2).....	2,173	Towanda (E4).....	417		
Merriam (H3).....	1,649	Ottumwa (G3).....	28	Sac-Fox and Iowa Ind. Res. (G2).....	110	Tracer (B2).....	69		
Michigan Valley (G3).....	105	Overbrook (G3).....	387	Saffordville (F3).....	110	Treese (H4).....	378		
Midian (F4).....	50	Overland Park (H3).....	10,000	St. Benedict (F2).....	150	Tribune (A3).....	1,010		
Milan (E4).....	165	Oxford (E4).....	798	St. Francis (A2).....	1,892	Trousdale (C4).....	110		
Millberg (D3).....	40	Ozawkie (G2).....	204	St. George (F2).....	251	Troy (G2).....	977		
		Page City (A2).....	100	St. John (D3).....	1,735	Turner (H2).....	1500		
		Palco (C2).....	405			Turon (D4).....	632		
		Palmer (E2).....	150			Tyro (G4).....	279		
						Udall (E4).....	410		

d 154 days near the northwestern corner. **Vegetation.**—The eastern third of Kansas is ll-grass prairie, where the bluestem grasses are e conspicuous dominants in the native vegeta-on. The western third is short-grass country which blue grama and buffalo grass are the ore conspicuous dominants. The mid-third of e state is mostly a mixed-grass region repre-nting the overlapping of the range of the east-n and the western forms of vegetation. Kansas e-occupies also a transition position in the north-uth distribution of vegetation: some long-day ants extending southward into and across Kan-s, and some short-day plants extending north-ard into or across the state. Native animal istribution patterns are similar to the vegeta-onal patterns.

Rivers, Lakes, and Irrigation.—The drainage ttern may be described in three divisions: orthern Kansas drained by the Kansas-Smoky ill-Republican river system; southwestern Kan-s by the Arkansas River; and southeastern Kansas by the Marais des Cygnes which empties to the Missouri River; and the Verdigris and eoshio rivers which empty into the Arkansas iver in Oklahoma. The state has no natural kes, but several artificial ones were created for ecreational purposes as a part of the public orks program of the 1930's. The major irri-ation activities are associated historically with lversion of Arkansas River water in the vicinity f Garden City, but some pump irrigation is racticed on a small scale. In 1950, approx-ately 138,686 acres were irrigated, compared ith 47,312 in 1919, 71,290 in 1929, and 99,980 acres in 1939.

Political Division.—Cities.—

City	Industries
Coffeyville	Brick, oil.
Hutchinson	Grain market, milling, wholesale houses, salt mining and manufacture.
Kansas City (Kansas)	Grain and livestock marketing, processing facilities.
Lawrence	Flour mill, paper box factory.
Parsons	Railroad shops.
Pittsburg	Coal mining, brick and tile manufacture.
Shina	Grain market, milling, wholesale houses.
Topeka	State capital, headquarters state organiza-tions; railroad offices and shops.
Wichita	Grain and livestock marketing, processing facilities; airplane factories; wholesale houses.

For populations of other communities see back f state map.

Counties.—The state's 105 counties range in ize from Butler with 1,445 square miles to Wyandotte with 151 square miles. The list of omities with county seats follows:

County	County Seat	County	County Seat
Allen	Iola	Dickinson	Abilene
Anderson	Garnett	Doniphan	Troy
Atchison	Atchison	Douglas	Lawrence
Barber	Medicine Lodge	Edwards	Kinsley
Barton	Great Bend	Elk	Howard
Bourbon	Fort Scott	Ellis	Hays
Brown	Hiawatha	Ellsworth	Ellsworth
Butler	El Dorado	Finney	Garden City
Chase	Cottonwood Falls	Ford	Dodge City
Chautauqua	Sedan	Franklin	Ottawa
Cherokee	Columbus	Geary	Junction City
Cheyenne	St. Francis	Gove	Gove
Clark	Ashland	Graham	Hill City
Clay	Clay Center	Grant	Ulysses
Cloud	Concordia	Gray	Cimarron
Coffey	Burlington	Greeley	Tribune
Comanche	Coldwater	Greenwood	Eureka
Cowley	Winfield	Hamilton	Syracuse
Crawford	Girard	Harper	Anthony
Decatur	Oberlin	Harvey	Newton

County	County Seat	County	County Seat
Haskell	Sublette	Phillips	Phillipsburg
Hodgeman	Jetmore	Pottawatomie	Westmoreland
Jackson	Holton	Pratt	Pratt
Jefferson	Oskaloosa	Rawlins	Atwood
Jewell	Mankato	Reno	Hutchinson
Johnson	Olathe	Republic	Belleville
Kearny	Lakin	Rice	Lyons
Kingman	Kingman	Riley	Manhattan
Kiowa	Greensburg	Rooks	Stockton
Labette	Oswego	Rush	LaCrosse
Lane	Dighton	Russell	Russell
Leavenworth	Leavenworth	Saline	Salina
Lincoln	Lincoln	Scott	Scott City
Linn	Mound City	Sedgwick	Wichita
Logan	Russell Springs	Seward	Liberal
Lyon	Emporia	Shawnee	Topeka
Marion	Marion	Sheridan	Hoxie
Marshall	Marysville	Sherman	Goodland
McPherson	McPherson	Smith	Smith Center
Meade	Meade	Stafford	St. John
Miami	Paola	Stanton	Johnson
Mitchell	Beloit	Stevens	Hugoton
Montgomery	Independence	Sumner	Wellington
Morris	Council Grove	Thomas	Colby
Morton	Richfield	Trego	Wakeeney
Nemaha	Seneca	Wabaunsee	Alma
Neosho	Eric	Wallace	Sharon Springs
Ness	Ness City	Washington	Washington
Norton	Norton	Wichita	Leoti
Osage	Lyndon	Wilson	Fredonia
Osborne	Osborne	Woodson	Yates Center
Ottawa	Minneapolis	Wyandotte	Kansas City
Pawnee	Larned		

People.—In 1860, six years after the terri-tory was opened to settlement, Kansas contained 107,206 people, and by 1890, 1,428,108. In 1930, the population numbered 1,880,999; in 1940, 1,801,028; and in 1950, 1,905,299. The half-century, 1890-1940, added 372,920, and the decade, 1940-1950, 104,271, the major change indicated being the rural to urban trend. During the decade 1910 to 1920, the number of cities (2,500 and up) increased from 33 to 62, but in 1940 there were only 64 of that size, and 20 with more than 10,000 population. By 1950, according to the Bureau of the Census' new urban definition, the bulk of the population (52.1 per cent, or 993,220 persons) were living in urban areas. However, with only two cities above 100,000, the state remained pre-eminently a region of small towns and adjoining rural areas. In 1950, 903,468 Kansans lived in 68 incorporated places with 2,500 inhabitants or more. The state's total of 601 incorporated places had a combined population of 1,206,252. The state received a substantial foreign immigration: English, Ger-man, Swedish, Bohemian, Russian, and others, but not in sufficiently large proportions to in-fluence politically its behavior in any conspicuous manner. In 1950, the foreign-born constituted 2.0 per cent and the Negro 3.8 per cent of the population.

Prominent men and women of Kansas history include, among those notable in politics: Charles Curtis (North Topeka, 1860-1936), vice president of the United States under Herbert C. Hoover; Arthur Capper (Garnett, 1865-1951), proprietor and publisher of several Kansas papers and magazines, governor of Kansas, and United States senator; Victor Murdock (Burlingame, 1871-1945), newspaper man, congressman, and federal trade commis-sioner; and Herbert Spencer Hadley (Olathe, 1872-1927), who practiced law at Kansas City, Mo., and became at-torney general and governor of Missouri.

In the field of science there are: Edwin Emery Slosson (Albany, now Sabetha, 1865-1929), chemist, author of several nontechnical books on science; Vernon Lyman Kellogg (Emporia, 1867-1937), zoologist and author of scientific books; Ernest Fox Nichols (Leavenworth, 1869-1924), physicist, known especially for his experiments in measuring planetary heat, also for determining light pressure; Hamilton Perkins Cady (Morris County, 1874-1943), chemist, authority on helium and other rare gases; Karl Augustus Menninger (Topeka, 1893-), psychiatrist, member of the Menninger Foundation; and his brother William Claire Menninger (Topeka, 1899-), psychiatrist, also associated with the Menninger Founda-

tion and head of the United States Army Psychiatric Services.

We may name as the outstanding Kansas-born artist John Stuart Curry (Dunavant, 1897-1946), who painted murals for United States government buildings and the Kansas state capitol.

Those of literary fame include: William Allen White (Emporia, 1868-1944), famous newspaper editor and author of many books; Edgar Lee Masters (Garnett, 1869-1950), author and poet, widely known for his *Spoon River Anthology*; Dorothy Canfield Fisher (Lawrence, 1879-), author of many works of fiction and nonfiction; and Damon Runyon (Manhattan, 1884-1946), columnist and author, well-known portrayer of Broadway characters.

Other Kansans who have won fame are: Frank Irving Cobb (Shawnee County, 1869-1923), editorial writer on Detroit, Mich., papers and editor of the *New York World*; Walter Percy Chrysler (Wamego, 1875-1940), industrialist, manufacturer of automobiles; William Aiken Starrett (Lawrence, 1877-1932), builder of the Empire State Building in New York and other famous buildings; Walter Perry Johnson (Humbolt, 1887-1946), probably the world's greatest baseball pitcher; Osa Leighty Johnson (Chanute, 1894-1953), hunter of big game with the motion picture camera; and Amelia Earhart (Atchison, 1898-1937), aviatrix, first woman to cross Atlantic Ocean in airplane.

Others of national fame who, by residence in Kansas, have brought renown to the state are: John Brown (1800-1859), abolitionist; James Henry Lane (1814-1866), Free State advocate and United States senator; Charles Robinson (1818-1894), leader of Free State faction in Kansas and first governor of the state; Cyrus Kurtz Holliday (1826-1900), organizer and first president of what is now the Atchison, Topeka and Santa Fé Railroad; George Washington Glick (1827-1911), Democratic governor and Shorthorn cattle breeder; John J. Ingalls (1833-1900), author and United States senator; Preston B. Plumb (1837-1891), journalist and United States senator; Frank (Francis) Huntington Snow (1840-1908), entomologist and chancellor of the University of Kansas; William Alexander Harris (1841-1909), Kansas stockman and United States senator, also one of the first importers into the United States of the Cruckshank strain of Shorthorn cattle which changed the whole character of the Shorthorn breed in America; Eugene F. Ware (1841-1911), lawyer and poet, who wrote his verse under the name of Ironquill; Ed (Edgar Watson) Howe (1853-1937), editor of the Atchison *Daily Globe* and *E. W. Howe's Monthly*, as well as author of many books; Charles M. Sheldon (1857-1946), clergyman, and author of *In His Steps*; Francis J. Finn, S.J. (1859-1928), writer of many Catholic juveniles which have been translated into many languages, a few having Kansas backgrounds such as *Tom Playfair*, laid at St. Mary College; Frederick Funston (1865-1917), United States Army officer, who commanded a Kansas regiment in the Spanish American War and won fame by the capture of Aguinaldo, Filipino leader, Gen. James Guthrie Harbord (1866-1947), chief of supplies, World War I; Sven Birger Sandzén (1871-), Swedish artist who made Linsborg the art center of the Middle West; William M. Jardine (1879-), agronomist specializing in dry farming, college president, and United States secretary of agriculture (1925-29); Alfred Mossman Landon (1887-), governor of Kansas for two terms and Republican nominee for president of the United States in 1936; and Dwight David Eisenhower (1890-), commander of the Allied armies during World War II and 34th president of the United States. The two spaces reserved for Kansas in Statuary Hall in the Capitol at Washington, D.C., are occupied by statues of John J. Ingalls and George Washington Glick, both mentioned in this article.

A few others of note in the agricultural field are Earl G. Clark, wheat breeder of blackhull wheat and other important derivative varieties; John H. Parker, one of the leaders at Kansas State College in the development of Kanred and other varieties of wheat; Mark A. Carlton, wheat importer, introduced Karkov, a bread wheat, and several varieties of durum macaroni wheats; and Robert H. Hazlett, a leading Hereford cattle breeder of the United States.

Natural Resources.—The large native animals were mostly killed in the process of settlement: beaver, antelope, elk, deer, buffalo, turkeys, prairie chickens, etc.; yet enough smaller animals remain to afford a substantial income to trappers of low-value pelts.

Little commercial sawed lumber is produced, and that only for local uses, but forest lands, mostly farm woodlots, total 1,121,000 acres.

Coal.—The principal producing coal fields are in southeastern Kansas, in Cherokee and Crawford counties; but other important coal produc-

ing counties include Bourbon and Linn, and Osage and Franklin, representing two other fields. Coal was mined commercially in a small way in the Kansas area as early as 1846, according to William Hemsley Emory, chief engineer, officer of the Army of the West, reporting on his march westward with troops for the Mexican War. Coal beds near the surface were mined commercially in various parts of territorial Kansas during the late 1850's. The first deep shaft (722 feet) mine was at Leavenworth, in production in 1870, and the last to be operated at that place was the state penitentiary mine, officially abandoned by authority of the legislature in 1947. Kansas mining was done by drifting, by shaft, and by stripping methods.

Petroleum and Gas.—The first utilization of petroleum products was from oil seepages, or tar springs, near the present town of Paola, used for axle grease by wagon trains. Drilling for oil began in 1860 in the same vicinity only a few months after the Drake well was completed in Pennsylvania. Oil and natural gas were both discovered in Kansas in connection with drilling for that purpose, as well as while prospecting for water, salt, and coal. Paola was supplied with gas in 1884 and gas was used as fuel for glass works at Paola and Fort Scott, but soon abandoned. Strictly commercial production of gas dates from the Cherryvale well of 1889, and the Coffeyville and Iola wells of 1893. By 1893, gas was used for domestic purposes in Paola, Cherryvale, Osawatomie, Iola, Humboldt, and Coffeyville. At Iola, gas was used for smelting, and for brick and cement plants until the supply was gone. New development in south central Kansas opened additional fields. Instead of continuing to use the gas exclusively for local domestic and industrial fuel, in 1905 long distance pipe lines were laid to market gas for domestic use in distant cities. The world's largest proven gas field was opened in the Hugoton area of southwestern Kansas in 1927. Strictly commercial oil wells were completed in 1892-1893 near Neodesha, where the first oil refinery was built in 1897. Large scale production, however came only with the opening of the El Dorado pool and others in 1914-1917. Kansas oil production has come from the several stratigraphic divisions as follows: Ordovician rocks, 53 per cent; Silurian-Devonian, 10 per cent; Mississippian, 15 per cent; Pennsylvanian, 20 per cent; and gas from Cambrian rocks, 9.5 per cent; Ordovician, 22 per cent; Mississippian, 17 per cent; Pennsylvanian, 7.5 per cent; and Permian, 39 per cent.

Soils.—From the standpoint of parent materials, northeastern Kansas soils are derived from glacial accumulations; otherwise approximately the eastern two fifths of the state are derived from residual sandstones, shales, and limestones; the central and south central portions, as far west as the 100th meridian, from sandstones and shales; and the western third, south of the Arkansas River, from Great Plains material, and north of that river, from loess. According to soil classifications used in the U.S. Department of Agriculture, Yearbook, 1938, *Soils and Men*, the soils of the eastern portion of the state are prairie or allied planosols. North of the Arkansas River, except the extreme southwestern part which are chestnut, the soils are chernozems or allied planosols. South of the Arkansas River and east of a line through Great Bend are

chernozems, and most of the remainder are chestnut, the extreme western portion being brown soils.

Parks, Preserves, Reservations, and Other Points of Interest.—There are numerous state and municipal parks in Kansas but no national parks. The John Brown Battleground Memorial Park at Osawatomie commemorates John Brown's defense of Osawatomie against a raid of pro-slavery men. The Ottawa County State Park contains a game preserve and bird sanctuary in which the State Fish and Game Commission maintains a hatchery for quail and Chinese pheasants. There are also state quail hatcheries at Kingman and Pittsburg. The Robt Bird-Banding Station is a private refuge. Migratory birds are marked with leg bands so that their

KANSAS FARM AND CROP STATISTICS

	1949	1950	Unit	Value
Number of farms	131,394			
acres in farms	48,611,366			
average acreage per farm	370			
average value of land and buildings per farm				\$ 24,756
percentage of farm tenancy	29.9			
value of all farm products sold				764,728,153
All crops sold				327,727,260
Field crops sold				322,111,586
Vegetables sold				1,096,034
Fruits and nuts sold				1,071,598
All livestock and livestock products sold				436,743,738
Dairy products sold				48,089,011
Poultry and poultry products sold				39,637,317
Other livestock and livestock products sold				349,017,410
Forest products sold				257,155
motor trucks on farms	88,835			
tractors on farms	146,266			
automobiles on farms	133,606			

* Inventory items are as of April 1, 1950; production figures are for the 1949 calendar year.
(Source: U.S. Census of Agriculture: 1950.)

seasonal flights across the country can be studied. There is a small buffalo sanctuary in Scott County State Park. The Bartlett Arboretum is on the edge of Belle Plaine and contains more than 4,000 varieties of trees, shrubs, and plants. The spring display of tulips is well worth seeing. According to the United States Census of 1900 there were 1,165 Indians living on three reservations: the Potawatomi, near Mayetta, the Kickapoo, about 20 miles south of Sabetha, and the Sac and Fox, near Reserve. The Kickapoo Indians observe some of their ancestral rituals such as the New Year's Dance, Spring Dance, Corn Dance, and Harvest Dance.

Some other points of interest include Rock House, just west of the Ottawa County State Park. The city is an eroded area of balanced rocks and formations resembling toadstools, pyramids, and mesas. This erosion is still continuing. Leavenworth contains Fort Leavenworth, one of the best interior army defenses in the country, a federal penitentiary, the Command and General Staff School (a training school for United States Army officers) and a national cemetery. At Fort Leavenworth is the cavalry school maintained by the United States Army.

The geographic center of the United States is near Lebanon in Smith County, at 39° 50' north latitude and 98° 35' west longitude.

Production and Manufactures.—*Agriculture.*—The history of agriculture in Kansas is

different from that of states farther east. As the state occupies an area which is transitional between native forest and grass vegetation, its ecological requirements are different in terms of crops and tillage practices. The eastern, or tall-grass portion, lies at the western extension of the area adapted to corn, soft winter wheat, and other associated crops typical of the corn belt, but includes the bluestem pasture region. The central third, or mixed-grass area, is typical hard winter wheat country. The western third, the short-grass portion, raises hard winter wheat and the sorghums, and grazes livestock. Early Kansas agricultural history was dominated by traditional devotion to corn; but in the 20th century, with the recognition of hard winter wheat as the dominant crop of the central and western two thirds, Kansas became known principally as a wheat state. In spite of this reputation, however, the live-stock industry in its several departments, breeding, pasturing, feeding for market, and dairying, is important in all parts of the state, and yields a greater aggregate cash income than all field crops combined.

The bluestem pasture region of Kansas provides summer grazing for grass fattening or maturing of southwestern cattle, the contract grazing season being six months, April through September. The volume of such annual shipments to the bluestem pastures of Kansas are indicated in the following table.

Year	Cattle and calves	5-yr. average	Cattle and calves
1947	329,000	1942-1946	283,000
1937	190,000	1932-1936	204,000
1927	273,000	1925-1929	270,000

Mining.—Mineral production in the state in 1949, valued at \$335,699,000, placed Kansas ninth among the states of the Union in total value. (In 1900 production was valued at less than \$18 million.) Statistics in the following table are for 1950.

Mineral	Quantity	Value
Petroleum (bbl.)	104,959,000	\$275,000,000
Natural gas (Mcf.)	324,300,000	24,400,000
Cement (bbl.)	8,619,000	19,500,000
Stone		9,250,000
Coal (tons)	1,845,000	8,300,000
Zinc		7,611,000
Salt		5,911,000

Mining activities in Kansas employed about 17,700 persons as of June 1951.

Manufactures.—Manufacturing establishments in Kansas in 1950 employed an average of 87,304 workers whose wages totaled \$282,425,000. The total value added by manufacture was \$613,500,000. The state's two major industries were related to the production of transportation equipment and the processing of food products, which respectively employed 21,788 workers who received \$80,930,000 in wages, and 25,527 workers, who were paid wages totaling \$74,618,000.

Leading specific manufactured products in 1947, according to the federal *Census of Manufactures*, were as seen on the following page.

The relative importance of the state's major economic activities is illustrated in a comparison of production values for 1949, in which cash receipts for all farm products totaled \$764,728,153; mineral production was valued at \$335,699,000;

Industry group	Value added by mfr.*
Chemicals and allied products	\$66,990,000
Grain-mill products	66,753,000
Meat products	52,257,000
Transportation equipment	51,344,000
Petroleum and coal products	51,118,000
Machinery (nonelectrical)	28,024,000
Printing and publishing	26,201,000
Stone and clay products	17,527,000
Bakery products	9,079,000
Dairy products	8,971,000

* Value of products less cost of materials, supplies, fuel, electricity, and contract work

and the value added by manufacture in all manufacturing industries was \$499,492,000.

Transportation.—The principal direction of Kansas trade is northeast and southwest. The principal railroad systems are the Atchison, Topeka, and Santa Fe; Union Pacific; the Chicago, Rock Island, and Pacific; and the Missouri Pacific. Greater Kansas City is the most important marketing and trade center, with Wichita and Salina serving as interior centers. To a limited extent Denver and Omaha serve the state, especially by means of Chicago, Burlington, and Quincy Railroad connections with the northwestern counties. In 1951, railroad line mileage totaled 12,687.55. The only transportation outlet by water is the Missouri River barge service connecting with railroads at Kansas City. In 1951, Kansas had 197 commercial and municipal airports. All highways and roads in the state totaled 125,949 miles, of which 52,416 miles were surfaced.

Economic and Financial Factors.—**Banking.**—The banking provisions of the Kansas constitution specified charters for banks to be granted only under a general law, otherwise most of the constitutional provisions related primarily to banks of issue and were obsolete after 1865 when the federal ten per cent tax was imposed upon state bank notes. The history of banking falls into three major periods: (1) unregulated banking, 1861–1891; (2) loose regulation, 1891–1897; (3) strict regulation, 1897–. In 1897, Kansas had 283 state, 109 private, and 116 national banks; in 1902 the figures were 425, 38, and 146 respectively. The last private bank discontinued operation in 1943. Kansas experimented with compulsory deposit insurance, 1909–1929, but the system failed. By 1945, only 38 state banks had become members of the Federal Reserve System, and only 279, or 63 per cent, were members of the Federal Deposit Insurance Corporation. Kansas' experience with its own system was a contributing factor in explaining the limited membership in the federal insurance plan. National banks in Kansas on June 30, 1951, numbered 174, with total assets of \$958,469,000, and total deposits of \$896,249,000. On the same date the state's 434 state banks and three trust companies held deposits of \$695,458,223.69.

Finances.—Following is a statement of finances for the fiscal year 1950–1951.

Balance in treasury, beginning of fiscal year 1950–51	\$159,308,352.77
Receipts, all sources, 1950–51	208,925,585.72
Total	\$368,233,938.49
Disbursements, 1950–51	200,778,388.81
Balance, beginning of fiscal year 1951–52	\$167,455,549.68

State indebtedness on June 30, 1951, total \$4,250,000 in soldiers' bonus bonds.

Taxation.—Under the original provisions of the state constitution the traditional methods of taxation were recognized in the general property tax. A new trend became definite in 1925 in the sales tax on motor vehicle fuel, and in 1933 in the general sales tax of 2 per cent and the personal income tax. There is no poll tax.

Government.—The constitution of Kansas was drafted and adopted in 1859, based largely upon that of Ohio, and has not undergone an major revision. The governor and other state officers are elected for a two-year term, the House of Representatives for a two-year term (originally one, amended in 1876), the Senate for a four-year term. The state legislature consists of 40 senators and 125 representative. Sessions are held biennially in odd-numbered years. The elective state officers include the governor, lieutenant governor, secretary of state, auditor, treasurer, attorney general, state superintendent of public instruction, commissioner of insurance, and state printer. The supreme court consists of seven justices elected for terms of six years. The state is divided into six congressional districts. Elections are conducted under the secret ballot system, and since 1900 candidates are nominated at primary election held early in August of election years.

GOVERNORS TERRITORIAL

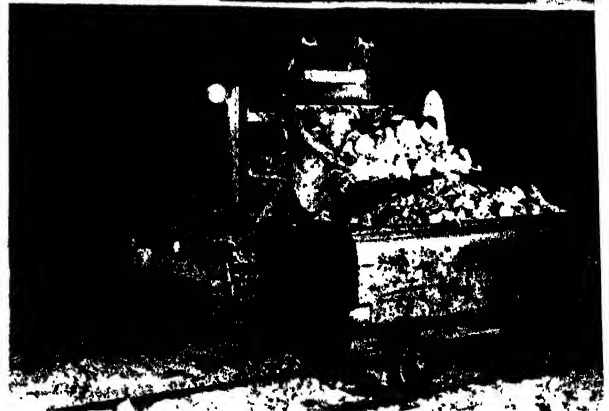
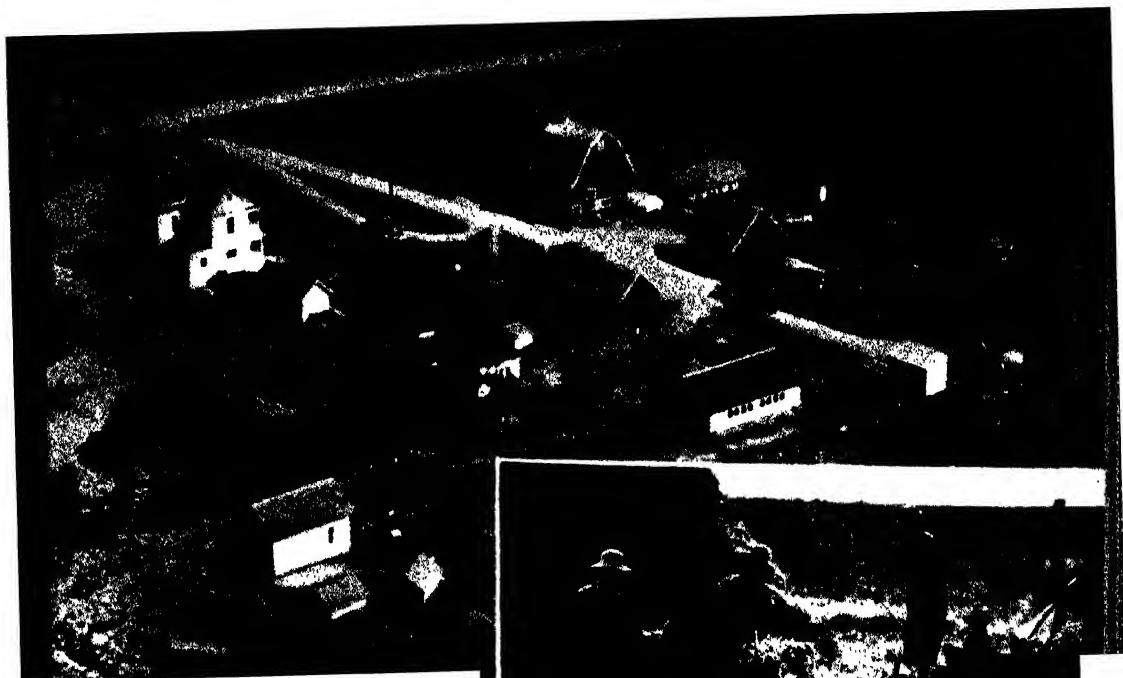
Andrew H. Reeder	1854–1855
Wilson Shannon	1855–1856
John W. Geary	1856–1857
Robert J. Walker	1857–
James W. Denver	1858
Samuel Medary	1858–1860

STATE

Charles Robinson	Republican	1861–1866
Thomas Carney	"	1866–1868
Samuel J. Crawford	"	1868–1869
Nehemiah Green	"	1869–1870
James M. Harvey	"	1870–1871
Thomas A. Osborn	"	1871–1872
George T. Anthony	"	1872–1873
John P. St. John	"	1873–1874
George W. Glick	Democrat	1874–1875
John A. Martin	Republican	1875–1876
Lyman U. Humphrey	"	1876–1877
Lorenzo D. Jewell	Populist-Democrat	1877–1878
Edmund N. Morrill	Republican	1878–1879
John W. Leedy	Populist-Democrat	1879–1880
William E. Stanley	Republican	1880–1881
J. W. Bailey	"	1881–1882
Edward W. Hoch	"	1882–1883
Walter R. Stubbs	"	1883–1884
George H. Hodges	Democrat	1884–1885
Arthur Capper	Republican	1885–1886
Henry J. Allen	"	1886–1887
Jonathan M. Davis	Democrat	1887–1888
Ben S. Paulen	Republican	1888–1889
Clyde M. Reed	"	1889–1890
Harry H. Woodring	Democrat	1890–1891
Alfred M. Landon	Republican	1891–1892
Walter A. Huxman	Democrat	1892–1893
Payne H. Ratner	Republican	1893–1894
Andrew F. Schoeppel	"	1894–1895
Frank Carlson	"	1895–1896
Edward F. Arn	"	1896–1897
Fred Hall	"	1897–

The most significant innovation in state government was the Legislative Council, with its research department, created in 1933. The council consists of ten senators, fifteen representatives, the lieutenant governor, and the speaker of the House of Representatives, and conducts investigations, prepares factual reports, and makes recommendations to the legislature. This procedure focuses the work of the legislature upon well prepared measures.

Local Government.—Local government in



KANSAS

Top: Air view of a typical well-ordered Kansas farm, near Horton. Upper right: Men baling wheat straw. Lower right: A diesel tractor equipped with a "traxcavator," loading gypsum rock into a mine car at Sun City. Gypsum is used in wall plaster, in the manufacture of fire-resistant wallboards, and in the making of hydraulic cement. In powdered form it proves beneficial as a dressing for alkaline soils. Bottom: Four 16-foot drills straight-furrowing a 1,680-acre Kansas farm near Utica.

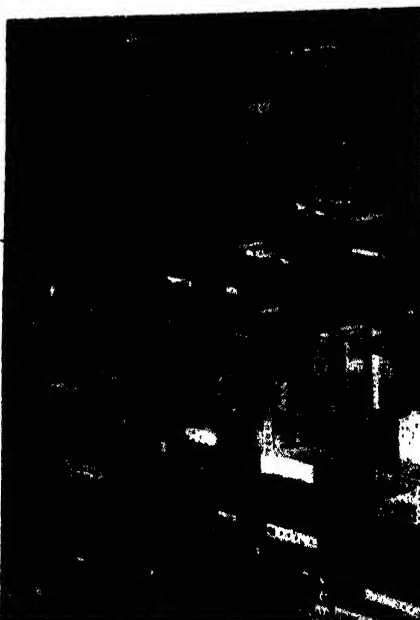
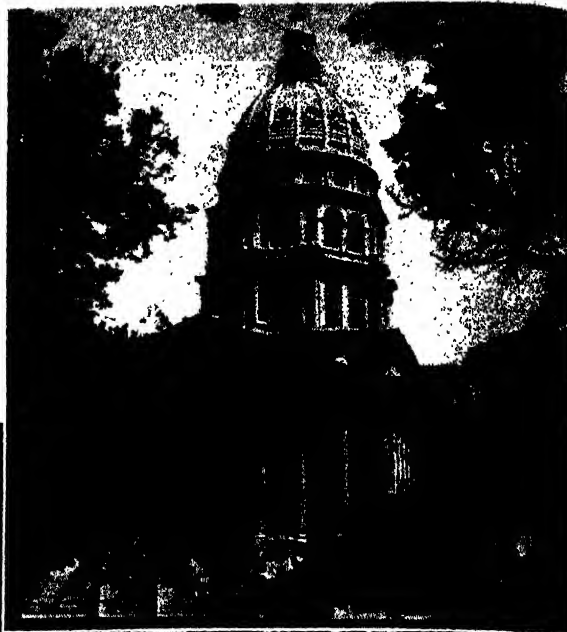
(Top and upper right) by J. W. McManigal from Philip Landreau, New York; (lower right and bottom) by Triangle Photo Service, New York.



KANSAS

Right: The Kansas State Capitol Building at Topeka, distinguished by a well-proportioned dome and by John Steuart Curry's famous murals. Center: Neat-appearing Wichita, trade and industrial center. Bottom left: A Topeka monument to the pioneer women who helped to conquer the "Giants in the Earth."

Photographs. (right) Kansas Industrial Development Commission, (center) Wichita Chamber of Commerce, (bottom left) © Philip Gendreau



The home of Kansas' Emporia Gazette. Under William Allen White, the Gazette became America's most famous small-town newspaper.

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Kansas is exercised through counties, townships, and incorporated towns. The constitution prescribed a part of the county government; a board of three county commissioners, superintendent of public instruction, clerk of the district court, and probate judge; the offices of county treasurer and sheriff were implied, but not provided for specifically; and other offices were created by the legislature, clerk, register of deeds, attorney, and coroner. The political townships are subdivisions of the county, and are governed by three elective officers, trustee, treasurer, and clerk, who together constitute a township board. Incorporated towns are within the county organization, and are of three classes, according to size; 15,000 and 2,000 population being the dividing points among the first, second, and third class cities. Three forms of city government are current: council, commission, and manager plans.

Public Welfare.—The institutions under the control of the board of administration are the following: *Charitable Institutions*—State Hospital (Topeka), State Hospital (Osawatomie), State Hospital (Larned), State Hospital for Epileptics (Parsons), State Training School (Winfield), State Sanatorium for Tuberculosis (Norton), State Orphans' Home (Atchison). *Correctional Institutions*—State Penitentiary (Lansing), State Industrial Farm for Women (Lansing), State Industrial Reformatory (Hutchinson), Boys Industrial School (Topeka), Girls Industrial School (Beloit), Receiving Home for Children (Atchison).

The state social welfare program is administered under four categories: old age assistance, aid to the blind, aid to dependent children, and general assistance to persons not eligible under the other heads. The Social Welfare Act became law in 1937, after amendment of the constitution in 1936. The state board exercises general supervision, but the county welfare departments are the primary agencies for administration.

The labor department has jurisdiction over employment of women and children, unemployment compensation financed by a payroll tax of not to exceed three per cent, and workmen's compensation. Vocational rehabilitation is administered by a separate state board.

Education.—The state constitution directed the legislature to establish "a uniform system of common schools and schools of a higher grade embracing normal, preparatory, collegiate, and university departments," and it provided also for a state superintendent of public instruction. The legislature provided further that the common school districts be controlled by boards of three members elected at an annual school meeting of the eligible voters, except in cities of the first and second classes, which had their own boards of education, and that each county elect a county superintendent of public instruction. Education was free to all between the ages of 5 and 21, and compulsory for those between the ages of 7 and 16 years. The school system underwent little change until the Reorganization Acts of 1945, and 1947, intended to facilitate the consolidation of districts, accelerated changes in spite of the fact that the laws were declared unconstitutional. A state department of public instruction was provided, which included the state board of education and the state superintendent of public instruction. New financial legislation committed the state to contribute from

state tax funds to the support of all elementary schools, irrespective of need which had been specified in the act of 1937, and authorized in certain cases countywide tax levies for school purposes.

The high school facilities, which had been created from time to time, were reduced to four types of public high schools, and besides there were private and other schools accredited by the state. Thirteen public junior colleges were maintained by cities of the first and second classes, and one by a rural high school district. Six private junior colleges were approved by the state. Municipal universities were maintained by the cities of Wichita and Topeka.

State educational institutions under the control of the Kansas Board of Regents are:

Name	Date established
University of Kansas, Lawrence	1866
Kansas State College of Agriculture and Applied Science, Manhattan	1863
Kansas State Teachers College, Emporia	1863
Kansas State Teachers College, Pittsburg	1903
Fort Hays Kansas State College, Hays	1901
School for the Blind, Kansas City	1867
School for the Deaf, Olathe	1866
Kansas Vocational School, Topeka (Negro)	1917

Accredited private colleges include Baker University, Baldwin City; Bethel College, Newton; Bethany College, Lindsborg; College of Emporia, Emporia; Friends University, Wichita; Kansas Wesleyan University, Salina; Marymount College (women), Salina; McPherson College, McPherson; Mount St. Scholastica (women), Atchison; Ottawa University, Ottawa; St. Benedict's College (men), Atchison; Southwestern College, Winfield; Sterling College, Sterling; Saint Mary College (women), Leavenworth.

Haskell Institute, in Lawrence, was opened in 1884, as a nonreservation boarding school for Indians. It is a coeducational school and offers a 4-year high school course and a 2-year postgraduate commercial course.

Libraries.—The two largest libraries in the state are those of the state university and the state agricultural college. The State Historical Society holds the most complete collection of newspapers published in the state of any historical society in the United States. The State Historical Society is designated officially as the State Archives. The William A. Quayle Collection of Bibles at Baker University is one of the most significant of such collections in the United States.

History.—The area occupied by Kansas was visited by several early explorers, Spanish and French. In 1541, a Spanish expedition commanded by Francisco Vázquez Coronado marched across the plains which are now a part of the state. He was followed by exploring parties led by Juan de Oñate (1601), Charles Claude du Tisné (1719), and Étienne Venyard, the Sieur de Bourgmont (1724). Only Coronado left much impress upon the history of Kansas, and that by way of a Coronado legend because it became a subject of continuous controversy. American explorers, Meriwether Lewis and William Clark (1804–1806), Zebulon Montgomery Pike (1805–1807), and Stephen Harriman Long (1819–1820) left descriptions of parts of the area which contributed to the legend of the Great American Desert. French fur-trading families, René Auguste and Jean Pierre Chouteau, Pierre Laclède, and others trapped and traded with

the Indians there prior to the purchase of Louisiana (1803) by which the title to most of Kansas passed to the United States. Prairie and plains tribes of Indians occupied or hunted over the area and are usually referred to as the native tribes: Kansa, Osage, Pawnee, Cheyenne, Arapaho, Kiowa, and Comanche. In the 1820's and particularly after the General Removal Act of 1830, eastern Indians were moved across the Mississippi River and settled in the country immediately west of Arkansas, Missouri, and Iowa, and between the Platte and Red rivers. These are called the immigrant tribes, the most conspicuous of those located in Kansas being the Shawnee, Wyandot, Delaware, Potawatomi, Ottawa, and Kickapoo tribes.

The Santa Fé trail and the Oregon-California trail passed through what is now Kansas, and the agitation for a Pacific railroad and for the opening of the Indian country to settlement culminated in another removal of these Indian tribes, and in the enactment of the Kansas-Nebraska Bill (q.v.) in 1854. That law organized the Indian country north of 37° north latitude and as far west as the Rocky Mountains into two territories, Kansas and Nebraska, divided by the fortieth parallel of north latitude.

The peopling of Kansas became involved in the sectional slavery controversy of the 1850's because of organized efforts, both north and south, to control the economic, social, and political institutions of the embryo state. In spite of organized efforts, however, the flow of population to Kansas was from Missouri, the Ohio Valley, both north and south of the river, and from the Middle Atlantic states, and these majorities determined the antislavery and anti-Negro attitude of the territorial and early statehood periods. In line with this, Kansas was admitted as a state Jan. 29, 1861 under the free "white state" Wyandotte constitution of 1859. The high points of this controversial period of Kansas territorial history center around such topics as the New England Emigrant Aid Company (q.v.), the Missouri invasion and election frauds, the "bogus laws," the Wakarusa war, the "sack of Lawrence (q.v.)," the Potawatomi massacre committed by John Brown (q.v.), the Marais des Cygnes massacre, and the Jayhawker and Red Leg raids by Kansans into Missouri.

Kansas contributed to the Union Army during the American Civil War a larger number of soldiers in proportion to population than any other state, and after the war, Kansas drew an unusually high proportion of Union veterans from the westward migration. These historical facts and traditions made Kansas predominantly Republican in politics, and emphasized the role of the "old soldier" during the late 19th century era. The political life of the state was affected profoundly by reform movements: prohibition, by constitutional amendment in 1880, of the manufacture and sale of intoxicating liquor; the Farmers' Alliance and the Populist (People's) Party during the 1890's; the Progressive Movement of the early 20th century.

In July 1951 Kansas suffered its worst flood in recent times when torrential rains swept the Kansas (Kaw), Marais des Cygnes, Neosho, and other rivers over their banks to inundate between 1.5 and 3 million acres. Floodwaters drove 100,000 people in Kansas and Missouri from their homes and caused damage in Kansas estimated at above \$750,000,000 to farmlands and to more than

200 cities, including principally Hays, Salina, Manhattan, Topeka, Lawrence, and Kansas City.

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KANSAS, Prohibition in.—When Kansas was first organized as a territory of the United States in 1854 by the terms of the Kansas-Nebraska Bill (q.v.), Maine's law of May 26, 1851, which prohibited the manufacture and sale of intoxicating liquors, had been in force only three years. However, the "Maine Law," as this act that succeeded Maine's less stringent prohibitory law of 1846 was called, stirred nationwide interest. To many public-spirited citizens the Maine experiment seemed the most practical method of combating the prevalent evil of excessive drinking in an epoch when Americans were perhaps not more inclined to over-indulgence than in the past, but when the Protestant churches, in particular the Methodist Church, had

ucceeded in awaking the public conscience to the moral and social evils attendant on drunkenness. Kansas, a frontier territory, viewed the experiment with eager concern, many of the settlers being former New Englanders imbued with strong Puritanical principles.

In 1856 Representative John Brown, Jr., a son of the famous antislavery crusader, presented to the territorial legislature a petition from the women of Topeka urging the passage of a "Maine Law." No action was taken on the petition, and Kansas became a state in 1861 without any mention of the prohibition issue in her constitution. But sentiment for statewide prohibition grew, and in 1880 the people adopted a prohibition amendment by a vote of 92,302 to 84,304. Five years later Maine followed this example by adding a prohibition clause to her state constitution.

Enforcement of statewide prohibition in Kansas was resisted in many communities. In some cities saloons were operated under a system of city fines in lieu of licenses. This hypocritical evasion of the law continued until enforcement was made effective in 1906 by Gov. Edward W. Hoch and Attorney General Fred S. Jackson who replaced recalcitrant local authorities with state attorney generals having authority to invoke the padlock law of 1901. A state repeal amendment was defeated in 1934 by 436,678 votes to 347,644. It was not until November 1948 that Kansas voted repeal of its 68-year-old prohibition amendment.

KANSAS, University of, a state educational institution, situated at Lawrence (except for technical division of medicine, at Kansas City). Establishment of a state university was provided for in the state constitution, and an act of the legislature incorporated the university in 1863. A preparatory department was opened in 1865, and the collegiate department a year later. The present organization includes the graduate school offering the usual advanced degrees, including Ph.D.; the college of liberal arts and sciences offering the B.A. and B.S. degrees; the schools of business, education, engineering and architecture, journalism, law, pharmacy; the school of fine arts offering majors in piano, voice, violin, organ, musical theory, commercial art, drawing and painting, design, occupational therapy, interior design, etc.; the four-year school of medicine, including nursing; the summer session of eight weeks; the extension division; the state geological survey. Graduates have made particularly outstanding records in science and engineering. The university is in direct contact with the high schools, admitting on certificate of school graduation. The natural history museum has notable collections in ornithology, vertebrate paleontology, and entomology (2,000,000 specimens). Plant value of the institution approximates \$12,390,000. Annual income is about \$7,000,000. The university enrolls about 2,500 resident students annually.

KANSAS CITY, Kans., the largest city in the state, on the Kansas and Missouri rivers, is one of the great centers of Midwest business activity; with its neighbor, Kansas City, Missouri, a focal point in the exchange of goods through many states. The stockyards are extensive and busy. There are flour mills, oil refineries, railroad shops, and factories turning out

a varied list of products. Strategically located in connection with the grain-growing region of the Southwest, Kansas City has unsurpassed grain storage facilities. The city has a Carnegie library, with a collection of fine paintings; a large number of public and parochial schools; several hospitals, of which one, together with a school of medicine, is maintained by the University of Kansas; churches of many denominations, service clubs, and parks and playgrounds, befitting its size and activity. When Lewis and Clark passed this way, in 1804, the site of the present city was completely undeveloped; about 1818 it was made part of an Indian reservation, and in 1843 it was acquired by the Wyandot Indians, a civilized group from Ohio, who actually founded the city, originally named for them, Wyandot City. This city was incorporated in 1859 as Wyandotte. The present metropolis came into being in the 1880's, through consolidation of several communities. The gas service is privately owned, but the water and electric systems are municipal. Commission government was adopted in 1909. Pop. (1940) 121,458; (1950) 129,553.

KANSAS CITY, Mo., second largest city in the state; located in the northwestern part of Jackson County, in the angle formed by the junction of the Kansas (or Kaw) and the Missouri rivers; near the geographic center of the United States. It is an important industrial, commercial, and banking city, a gateway to most of the western half of the United States, and a national hub of transportation.

Geography.—The average January temperature of Kansas City is 30°F.; the average July temperature, 79°F. The average annual precipitation is about 35 inches. At Twelfth Street and Grand Avenue, the altitude above sea level is about 884 feet. Topographically, Kansas City is divided into three parts. The first and largest consists of high bluffs facing the Kansas River and extending east and south into level upland. The second, the West Bottoms, includes the lowlands lying between the Missouri-Kansas state line on the west and the east bluff of the Kansas River. The third, the East Bottoms, takes in all of the lowland lying east of the foot of Grand Avenue where it runs into the Missouri River. The city covers an area of 82.18 square miles, including parts of Jackson County (in which the major part of the city is located) and Clay County. Separated from Kansas City by a state line is Kansas City, Kansas. The two cities are served by the same railroad terminals, street car service, and telephone system. The Kansas City metropolitan district covers 1,643 square miles and consists of four counties: Jackson and Clay counties in Missouri, and Johnson and Wyandotte counties in Kansas.

Population.—The city population is largely made up of native-born white people, many of whom are of Irish or Italian ancestry. About 10 per cent are Negro. The growth of the city may be seen in the following population statistics: 300 in 1838; 4,418 in 1860; 132,716 in 1890; 324,410 in 1920; 399,178 in 1940; 456,622 in 1950.

History.—In 1712, Etienne Veniard de Bourgmont led a French exploring expedition up the Missouri River as far as its junction with the Platte. In 1723 he returned and built a fort about 60 miles northeast of the present city. The fort was abandoned in 1727. Daniel Morgan

Boone, son of Daniel Boone, was probably the first American to set foot in what is now Kansas City; just before 1800, he trapped along the Big Blue River, which flows through the eastern part of the city. Lewis and Clark (see LEWIS AND CLARK EXPEDITION) camped for three days in 1804 at the mouth of the Kansas on their exploration of the Missouri River. In 1821, François Chouteau established the first permanent settlement, a trading post for the American Fur Company, within the present boundaries of Kansas City. In 1832, John Calvin McCoy opened a store four miles south of Chouteau's warehouse and in 1835 platted the town of Westport. For a time, that community thrived. Chouteau's settlement became known as Westport Landing, and from it supplies unloaded from steamboats were hauled to Westport. In 1849, an epidemic of Asiatic cholera almost ruined Westport. Meanwhile, in 1838, a group of men acquired a tract of land near Chouteau's settlement and, as the Kansas Town Company, offered lots for sale. The title was not cleared, however, until 1846, and development was slow at first. Kansas Town was also affected by the epidemic, but it soon began to enjoy prosperity. In 1850, it was incorporated as the Town of Kansas and, in 1853, re-incorporated as the City of Kansas which name it kept until 1889 when a new charter was adopted and the official name was changed to Kansas City.

Outfitting and supplying the overland trade furnished the main support of Westport and the City of Kansas up to the Civil War. During the war, a Union army repulsed a Confederate attack at the Battle of Westport (Oct. 21-23, 1864), and Kansas City remained in Union hands. The first railroad reached the city in 1865. Economically, however, the city was almost ruined, and it was not until after the Civil War that it began to make its great strides as a commercial center. The Hannibal Bridge, the first to span the Missouri River, was opened for traffic in 1869. By 1870, Kansas City had become the radiating point for eight different railroads. In that decade it became the center of the nation's cattle trade. By 1900, the city's population (including Westport, annexed a few years before) was 163,750 and its trade area extended south to the Gulf of Mexico, north to the Dakotas, and west to the Pacific Ocean. Largely a grain as well as a cattle center during the latter 1800's, between 1900 and 1914 the city acquired a wide variety of new industries including automobile assembly plants. Kansas City's war effort during World War I was directed largely toward supplying the nation's allies with foodstuffs. Meat packing and flour milling expanded rapidly. Following the war, Kansas underwent another period of rapid industrial expansion and skyscrapers began to change the city's skyline. In 1919, with a population of more than 300,000, the city provided for a city plan commission, and in 1923 adopted a comprehensive zoning ordinance. In the latter year, work was started on the Liberty Memorial, a column 280 feet high with two low buildings in classic style, designed by Harold Van Buren Mononigle, and the memorial was dedicated Nov. 11, 1926 by President Coolidge. The voters adopted a home rule charter for the city on Feb. 24, 1925, the fourth charter in the city's history. This charter provided for a council-manager type of government, replacing a mayor-council system with a bicameral legislative body.

During the depression of the 1930's, local

wholesaling and manufacturing activities were greatly reduced but the city began a ten-year plan of public construction and beautification. World War II brought a new era of industrialism to Kansas City. In the postwar period, the new manufacturing activity adjusted itself for the most part to peacetime demands, and new products and new markets developed.

Early on July 13, 1951, the central industrial and stockyards section of Kansas City was flooded by the Kansas River. The job of clearing the streets of silt, wreckage and dead animals, and of preventing disease, was undertaken chiefly by Disaster Corps, Inc., an emergency, nonprofit organization headed by contractors and builders.

Government.—Kansas City is governed under the home rule charter adopted in 1925 to which several amendments have since been made. The legislative body is composed of a mayor and council. The mayor and councilmen are elected for terms of four years. The mayor is the official head of the city and chairman of the council with one vote. Two councilmen are elected from each of the city's four election districts, one councilman by the voters of the district and the other (councilman-at-large) by city-wide vote, as are three municipal court judges. The council appoints the city clerk, city auditor, and city manager. The city manager is the administrative head of the city, and is responsible to the council for the effective management of the city's business in accordance with policies determined by the council. He prepares the annual budget, makes recommendations to the council concerning the affairs of the city, and is entitled to a seat in the council but no vote. He appoints, and may remove, all department heads under him. As of 1950, there were 13 departments under the city manager: fire, water, aviation, liquor control, public works, health, law, municipal court, traffic violation, municipal auditorium, research and budget, personnel, and welfare. (This last-named department was established in April 1910, and was the first, full, public welfare department in the United States.)

The park department is under the control of a board of three commissioners appointed by the mayor. The 120 miles of boulevards connecting the city parks are also under the board of park commissioners. The police department is controlled by a board of commissioners appointed by the governor, the mayor serving as ex-officio member. Members of the city plan commission, the board of zoning adjustment, and a number of other city agencies are appointed by the mayor.

The City Hall is a modern 30-story structure, completed in 1936. In 1950 the city operated two airports, a municipal market, municipal auditorium; one tuberculosis and two general hospitals with a combined bed capacity of 1,125; a municipal farm and women's reformatory, a water system, and many other city services. Following a long period of political machine control, a reform movement was started in 1940 which has made Kansas City noted for its efficient government.

Industries and Business.—The Kansas City area ranks at or close to the top in the United States as a cash winter wheat market, cattle and calf market, stocker and feeder cattle market, flour producing center, and livestock and meat packing center. The Kansas City stockyards cover 242 acres and can handle up to 175,000 animals daily. Grain elevators in the area have a capacity of 61,632,000 bushels.

The expansion during the 1920's, and again during and following World War II, has given the city a fine balance between agricultural and industrial manufacture. While meat packing and our milling remain the city's two leading industries, apparel and related products are among its most important manufactures. Other important industries in Kansas City are automobile assembling, metal products fabricating, printing and publishing, primary metals, and chemicals. The Midwest Research Institute and the Linda Hall Library of Science and Technology, both located in Kansas City, are dedicated to the creation of new industries for the entire Midwest. Kansas City is important as a warehousing center. It has a total of 33,000,000 cubic feet of cold storage space. It is also a market and distributing center for coal produced in the vicinity and for fuel oil from the great mid-continent oil fields. Natural gas is used in the city for home and industrial purposes. Proximity to the gas-producing fields of Kansas, Oklahoma, and Texas has been an important asset in the growth and development of Kansas City.

The city is the home of the 10th District Federal Reserve Bank. In 1948, 13 banks in Kansas City had total deposits of \$1,100,897,000, and the Kansas City area ranked eighth in the United States in bank clearings.

Transportation and Communication Facilities.—Kansas City's growth has from earliest days been due largely to the advantages in transportation which it had through its natural location or acquired through the foresight of its citizens. Kansas City is served by 12 major trunk railroads. Its union station, was, in 1950, the third largest in the United States. Seven Federal concrete highways connect Kansas City with all sections of the country. As of 1950, 14 bus lines had 201 daily schedules through well-equipped bus terminals, and over 125 truck lines served the city. Five major airline companies operated from Kansas City with about 150 daily scheduled flights. Kansas City's Municipal Airport is only five minutes north by cab from downtown hotels. Grandview, an auxiliary airport south of the city, is also maintained by the city government. River transportation of freight is carried on by the Federal Barge Line. In direct trade with foreign countries, Kansas City firms imported \$62,451,320 worth of commodities in 1949 and exported goods valued at \$28,446,441.

Eight radio stations and one television station serve the area (1950). The major newspaper is the *Kansas City Star*, an employee-owned, evening paper which publishes a morning edition, the *Kansas City Times*. As of Sept. 30, 1949 the combined average daily circulation of the *Star* and *Times* was 710,596. The *Weekly Kansas City Star* had a circulation of 431,878 and was the largest farm newspaper in the United States. It, too, is issued by the same publishers.

Educational, Cultural, and Recreational Facilities.—School facilities in 1950 included 5 senior high schools, 8 junior high schools, 2 junior-senior high schools, 8 four-year high schools, 131 elementary schools, 2 trade schools, 3 junior colleges, and 1 special school. There were also 69 Catholic schools and colleges and 2 Catholic seminaries in the city. Other denominational and non-denominational religious schools serve the people of some 40 other faiths who worship in Kansas City's 290 churches. The University of Kansas City, the Kansas City Art Institute, and

the Conservatory of Music also provide opportunity for higher education.

The Kansas City Public Library has a well-equipped main library and 14 branches located throughout the city. The Kansas City Museum contains exhibits of natural and industrial history of the Middle West as well as special collections of American Indian, Oriental, and other objects valued at more than \$2,000,000. William Rockhill Nelson Gallery of Art and Mary Atkin's Museum of Fine Arts contains paintings, sculpture, and other works of art valued at almost \$11,000,000. The Kansas City Philharmonic Orchestra is a nationally recognized musical organization.

There are 51 parks in Kansas City with a total acreage of 2,820. Swope Park, one of the largest city parks in the United States, contains 1,688 acres and includes boating facilities, a swimming pool, a zoo, and an outdoor theater. The city's recreation department provides extensive supervised recreation at playgrounds, community centers, and other places.

Ruppert Stadium, with a seating capacity of 17,500, is the home of the Kansas City Blues, an American Association baseball team. The American Royal Livestock and Horse Show, held in November of each year, attracts visitors from all over the country. The pavilion of the American Royal Building (1922) is a two-story reinforced concrete structure containing over seven acres of floor space. Kansas City's Municipal Auditorium, completed in 1936, seats 24,000 people in 32 separate units. The main arena seats 14,000 people. The auditorium also contains a theater, committee rooms, and three and a half acres of space for exhibition purposes.

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KANSAS INDIANS, a Siouan tribe which formerly occupied territory on the lower Kansas River in Kansas. Their chief historical importance is that they gave their name to the State of Kansas and to the river. They were closely related to the Osage Indians but lost their tribal identity through intermarriage. See KAW.

KANSAS-NEBRASKA BILL, a bill passed by Congress in 1854; the last of three compromises between the aggressive slavery expansionists of the South and their anti-slavery opponents in the North. It is famous because, by its repeal of the first, the Missouri Compromise (q.v.), it precipitated the organization and rapid growth of the Republican Party and especially incited the radical abolition sentiment of the North to aggressive action, thus causing or hastening the secession of the Southern States and the resulting Civil War. Its passage was mainly due to the leadership of Stephen A. Douglas (q.v.), of Illinois. The second compromise occurred when New Mexico and Utah came to be organized as territories in 1850. The compromise consisted of the provision, which was also one of the two principal features of the Kansas-Nebraska

Bill, that when these Territories came to be admitted as States they should come in with or without slavery as their constitutions, which would be framed by the people, might prescribe. The strengthening of the Fugitive Slave Law was the other feature of this compromise. This settlement of 1850 was the first step toward the final compromise, the Kansas-Nebraska Bill.

As early as 1844 Stephen A. Douglas introduced in the House of Representatives a bill "to establish the territory of Nebraska," and Douglas afterward asserted that he took this method of serving notice on the Secretary of War to discontinue using that Territory as the dumping-ground for Indians. In 1848 Douglas, now chairman of the Committee on Territories in the Senate, introduced in that body a bill for the same purpose. In December 1851 Willard P. Hall of Missouri gave notice in the House of a bill for the organization of Nebraska; but none of these bills got beyond the committee stage. On 2 Feb. 1853 William A. Richardson of Illinois, the leading lieutenant of Douglas in the House, introduced still another bill "to organize the Territory of Nebraska." This bill, which, like all of its predecessors in question, made no reference to slavery, passed the House, 10 Feb. 1853; but in spite of the strenuous endeavors of Douglas in its behalf, it failed of consideration in the Senate. The long debate over this bill in the House disclosed clearly that the primary object of members from the Northwest, who were its champions, was to protect and encourage travel over the great upper line to the Pacific Coast and make way for the ultimate construction of the already much talked of Pacific Railroad; while members from the South, and especially from the Southwest, were bent on keeping this northern region open for the colonization of their undesirable Indian tribes, with the purpose of securing travel and the railroad to the Pacific Coast through their own country.

Early in the session of the next Congress—14 Dec. 1853—Senator Dodge of Iowa, a coadjutor of Douglas in this enterprise, introduced "a bill to organize the Territory of Nebraska." This bill also originally contained no reference to slavery; but by amendment it became the famous Kansas-Nebraska Bill, which finally became a law 30 May 1854. On 4 Jan. 1854 the Senate Committee on Territories, through Douglas, reported a substitute for the Dodge bill which contained the compromise provision of the Utah and New Mexico acts; namely, that "the Territory of Nebraska, or any portion of the same, when admitted as a State or States, shall be received into the Union with or without slavery, as their constitutions may prescribe at the time of their admission." In his famous report, accompanying this bill, Douglas points out that "eminent statesmen hold that Congress is invested with no rightful authority to legislate upon the subject of slavery in the Territories, and that therefore the 8th section of the Missouri Compromise is null and void; while the prevailing sentiment in large sections of the Union sustains the doctrine that the Constitution of the United States secures to every citizen the inalienable right to move into any of the Territories with his property of whatever kind or

description, and to hold and enjoy the same under the sanction of law." The report pointed out also that under this section it was a disputed point whether slavery was prohibited in the new country by valid enactment, and advised against the undertaking by Congress to decide these disputed questions. The bill was further amended so as to provide that all questions pertaining to slavery in the Territories and the new States to be formed therefrom be left to the decision of the people residing therein; that cases involving title to slaves be left to the courts; and that the provision of the Constitution in respect to fugitive slaves should be carried out in the Territories the same as in the States. On 16 January Senator Dixon of Kentucky offered an amendment, which was accepted by Douglas, expressly repealing the slavery restriction clause of the Missouri Compromise; and the bill passed with these amendments.

The repeal of the Missouri Compromise restriction was hotly denounced by the anti-slavery element and was seized with alacrity and used with great effect as a political weapon by anti-slavery agitators and politicians; and Douglas was also savagely denounced for selfish subserviency to the South for the sake of winning the Presidency. But Douglas and his friends ably and plausibly defended the repeal of the Missouri restriction on the ground that it was consistent with and the natural sequence of the popular sovereignty compromise of 1850, that there was danger that it would be held unconstitutional by the courts; that there was ground for fear that Dixon's amendment, as he proposed it, would legislate slavery into the Territories, and that on the whole Douglas, as leader of the dominant party, and having regard to the preservation of the Union as well as to the vexatious slavery question, made the safest and best terms practicable in securing the right of the people to decide the question of slavery for themselves. In the course of the debate on the bill Douglas, as well as Thomas H. Benton, who was opposed to the repeal of the Missouri restriction, insisted that, left to the people, slavery could never be successfully introduced into Kansas or Nebraska.

Impartial consideration of all the facts bearing upon this phase of the question leaves no ground for the charge preferred by leading historians and others that the proposed Nebraska Territory was at last divided into Kansas and Nebraska at the instance of Southern members, to gain opportunity to make Kansas a slave State. The "provisional" delegate in Congress at that time from Nebraska well known by contemporary citizens of the Territory as a reliable man, in his published account of his part in the transaction asserts that, before he went to Washington to attend the session of December 1853, it was agreed among the enterprising citizens of western Iowa—there were then no citizens of Nebraska—who were pushing the project for Territorial organization, that division was desirable so that one of the Territories might be directly opposite their State, and that he urged this change upon Douglas, who assented to it. In the debate on this feature of the bill Senator Dodge of anti-slavery Iowa and Representative Henn of the Iowa district bordering on Nebraska urged it

division for the frankly expressed reasons that it would be to their advantage to have the capital of an important commonwealth opposite them and would aid in securing the route of the Pacific Railroad through their part of the country; while the representatives of slave-holding Missouri were indifferent to the question of division. Douglas himself specified the wish of the Iowa members as the basis of his reason for the division of the territory. It is significant, moreover, that Douglas had always stood for a northern territory, as shown by his original bills of 1844 and 1848. It is a very significant fact that the northern boundary of the territory in each of these bills was the 43d parallel, which is identical with the northern boundary of the present state; and that the southern boundary described in the bill of 1848 was also identical with the same boundary of the state, while the southern boundary described in the bill of 1844 was only two degrees farther south. These and other incidents of a like kind show a remarkable prescience and a persistent consistency in interpreting the wishes and interests of those most directly interested in the territory opposite the State of Iowa and on the line of the great natural highway connecting Chicago, the commercial mart of the Northwest, and the home of Douglas, with the Pacific Coast. Representative Henn in resenting "the unjust charge made on this floor by several that it (the proposed division) was the scheme of Southern men whereby one of the States to be formed out of these Territories was to be a slave State," put the case concisely: "The bill is of more practical importance to the State of Iowa and the people I represent than to any other State or constituency in the Union."

The Kansas-Nebraska Bill was also distinguished by more completely safeguarding the rights of Indian occupants than any previous territorial organic acts had done; and likewise being the first territorial bill of that class which provided for the choice of the members both houses of the legislature by popular election, and to drop the provision requiring the submission of all acts of the legislative assembly to Congress for approval. The territory organized by this bill comprised all of the unorganized part of the Louisiana Purchase north of the 37th parallel, which comprised all of the rebase north of that line except the states of Iowa and Missouri, and that part of the Territory of Minnesota between the Mississippi River on the east and the Missouri and White Earth rivers on the south and west.

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KANSAS RIVER, river (also called the Kaw), Kansas, formed by the junction of the Republican and Smoky Hill rivers at Junction City, Kearney County, in the eastern part of the state. The direction of its course is generally easterly. It flows for 169 miles through a rich agricultural section, passing Topeka, and empties into the Missouri River at Kansas City. Its largest tributary is the Big Blue River which joins it from the north near Manhattan, Kansas.

KANSAS STATE COLLEGE OF AGRICULTURE AND APPLIED SCIENCE, Manhattan, Kansas, a coeducational institution established in 1863 under terms of the Morrill (Land-Grant) Act. Its 160-acre campus has 39

major buildings, nearly all of native limestone. Resident instruction is divided among schools of agriculture, arts and sciences, engineering, home economics, and veterinary medicine, and there is a graduate school. The college has always emphasized professional education in the applied sciences, such as agriculture, engineering, industrial chemistry, and industrial physics; and has offered instruction in home economics since 1873, longer than any other college in the United States. It has one of the very few fully accredited veterinary medicine schools in the country, and the only four-year milling industry curriculum in the world. As a major research agency, the college is a participating institution of the Argonne National Laboratory and maintains agricultural and engineering experiment stations, with branch agricultural stations at Colby, Hays, Garden City, Tribune and Mound Valley. Agricultural extension work is conducted in cooperation with the federal Agricultural Extension Service throughout the state. Normal enrollment after World War II was about 7,000.

KANSAS WESLEYAN UNIVERSITY, Salina, Kansas, a coeducational institution founded in 1886 under the auspices of the Methodist Episcopal Church. It is governed by a board of trustees responsible to the Central Kansas Conference of the Methodist Church. The campus of approximately 30 acres has seven main buildings and a number of auxiliary units, an athletic field and stadium. There is a college of liberal arts, and its departments of music, business administration, and education provide special training for students in these areas. Normal enrollment is about 550.

KANSK, kánsk, city of Asiatic Soviet Russia, in southern Krasnoyarsk Territory. It is on the Trans-Siberian Railroad, 151 miles east of Krasnoyarsk, and on the Kan River, an unnavigable affluent of the Yenisei. Situated in the Kansk lignite basin and in a rich farming district chiefly devoted to wheat growing and dairying, its industries include sawmills, food processing, and light manufactures. During World War II the first large cotton mill of eastern Siberia was constructed here. Founded in 1628 by the voivode of Krasnoyarsk, it remained a village until the advent of the railroad stimulated its growth, much accelerated in the 1940's. Pop. (1951 est.) over 25,000.

KANSU, kán'sōō', Chinese, gán'sōō', province, China. It is generally long and narrow in shape, running northwest and southeast, bordered by Ningsia on the north, Sinkiang on the west, Tsinghai (Chinghai) and Szechwan on the south, and Shensi on the east. The terrain is generally mountainous, having the northern ranges of the Nan Shan (up to 20,000 feet) in the northwest, and the Min Shan (up to 17,000 feet), an extension of the Kunlun Mountains, in the southeast. The northwestern plains tend to be arid, while those in the southeast, watered by the Hwang Ho (Yellow River) and its tributary, the Wei, are more fertile. Minerals include petroleum, coal, iron, gold, and mercury. The chief crops are rice and other grains, beans, rapeseed, and kaoliang (sorghum). Opium was formerly grown extensively. The population is about one third Moslem. Large sections of the western extension of the Great Wall lie in this province. The Silk

Road, a famous caravan route of earlier times, runs through Kansu which is now an important link between China and the USSR. The capital is Lanchow (Kaolan). Area 151,160 square miles; pop. (1947 official est.) 6,897,781.

KANT, kánt, Immanuel, German philosopher: b. Königsberg, East Prussia, April 22, 1724; d. there, Feb. 12, 1804. Kant's father, Johann Georg Kant, was a poor but respected saddler. The home atmosphere of strict pietistic Protestantism made a lasting impression upon Kant and is reflected in the rigorism of his moral doctrine. The young Kant attended the Collegium Fridericianum, where he received a thorough training in Latin; but Kant always remembered with horror the "fanatical discipline" characteristic of this school. When, later, in his lectures on pedagogy, Kant emphasized that one ought to educate children in freedom so that they can be of a "happy heart," he was reacting to the quite different experience of his own childhood.

At the age of 16 Kant entered the University of Königsberg, where he studied philosophy, mathematics, and physics, and attended lectures in theology. When, five years later, his father died, Kant found himself in financial difficulties which delayed until 1749 the publication of his first scientific work, *Thoughts Concerning a True*



Estimation of the Vital Forces, and made it necessary for him to serve nine years (until 1755) as private tutor with various families in the vicinity of Königsberg. However, during this period Kant not only acquired the social graces which later distinguished him, but also accumulated an astounding knowledge in many fields, and his thoughts matured. He published a few brief papers and then, in 1755, anonymously, his famous *General History of Nature and Theory of the Heavens*. In the same year Kant received his doctor's degree and became a lecturer at the University of Königsberg. He taught logic, metaphysics, moral philosophy, natural theology, and anthropology, as well as mathematics, physics, and physical geography. In 1770, upon submitting his inaugural dissertation, *On the Form and Principles of the Sensible and Intelligible World*, he was appointed professor of logic and metaphysics at Königsberg. Before he retired, in 1796, Kant had been dean of the faculties six times and rector of the university twice.

After a long pause in publication, Kant com-

pleted in quick succession the great works which have become classics in philosophy: *Critique of Pure Reason* (1781); *Prolegomena to Any Future Metaphysic* (1783); *Metaphysical Foundations of Natural Science* (1785); *Critique of Practical Reason* (1788); *Critique of Judgment* (1790); *Religion Within the Limits of Pure Reason* (1793); *Metaphysics of Morals* (1797). Only once was this productivity interrupted, when Johann Christian von Wöllner, minister to Frederick William II of Prussia, ordered the seventy-year-old philosopher to refrain from writing about or lecturing on religion. Kant wrote a reply justifying his position but obeyed the order.

Kant was neither asocial nor detached from the events of the day. The pedantic orderliness of his daily life was the result of a rigid self-discipline to preserve his strength and not to overtax his frail health. Kant's "critical philosophy" was the result of a long development during which he came successively under the influence of Gottfried Wilhelm von Leibniz, Christian von Wolff, Sir Isaac Newton, John Locke, David Hume, Jean Jacques Rousseau, and, once more, Leibniz and Hume. The dividing mark between Kant's pre-critical and critical philosophy is the year 1769. In the early 1760's, Kant still accepted the dogmatic rationalism of philosophical tradition, the culmination of which he saw in Newtonian mechanics and in the metaphysics of Leibniz and Wolff. The chief works of Kant's pre-critical period are: *General History of Nature and Theory of the Heavens* (1755), and *Dreams of a Spirit-Seer, Explained through the Dreams of Metaphysics* (1766). The former bears the subtitle, *Concerning the Structure and the Mechanical Origin of the Whole Universe, According to Newtonian Principles*. Using our solar system as an example, Kant tries to show how, under the influence of attraction and repulsion and in conformity with Newtonian principles, the whole universe can be developed out of an initially given cosmic dust (Kant's "nebular hypothesis" of the origin of the solar system). Philosophically significant here is Kant's strict adherence to the principle of mechanical causation, and the absence of metaphysical speculation. Kant is convinced, however, that the manifest purposiveness of all vital processes remains inexplicable in terms of causality alone.

At this time Kant's thinking was still dominated by the rationalism of Leibniz and Wolff according to which conceptual analysis by itself yields true knowledge of the very nature of things. However, under the influence of Locke and Hume, Kant came to understand that logical operations, although sufficient for the organization of knowledge, contribute nothing to the content of knowledge, which is derived from experience alone. Following Hume, he distinguished now between logical ground (*ratio*) and real ground (*causa*); but whereas Hume repudiated the principle of causality as a deception of our imagination, Kant retained it as a constitutive principle of nature. The result of these new insights led Kant to that attack upon traditional metaphysics which is the philosophical core of the *Dreams of a Spirit-Seer*. Reacting to the metaphysical speculations of Emanuel Swedenborg, Kant shows how easy it is through a clever use of mere conceptual possibilities, to create the impression of knowledge of a supersensible world. Since metaphysics cannot penetrate to the ultimately real, Kant now argues, its only legitimate task is the comprehension of

the nature and limitations of human cognition. The aim of "critical philosophy" thus appears for the first time.

The year 1769 brought Kant "a great new insight" into the crucial distinction between the world of sense and the world of the understanding, and hence into a corresponding distinction in the structure of knowledge. This "new insight" was induced by Kant's realization of the full significance of the problem involved in the applicability of mathematics to the physical world. More specifically, how can the independence and apodictic validity of mathematical proof be reconciled with the applicability of mathematics to the world of things? Kant's solution of this problem, as presented in the dissertation of 1770, is that space and time are neither mere concepts of relation (as Leibniz held) nor metaphysical entities (as Newton maintained), but "forms of our sensibility under which alone sense impressions can be experienced by us." Following Leibniz, Kant now distinguishes between a world of appearance (which corresponds to our senses) and the world of true being (which corresponds to our understanding and reason); and, again following Leibniz, he accepts the rationalistic-dogmatic thesis that, whereas "sense impressions reveal the things as they appear to us, the concepts of the understanding reveal them as they are."

However, a renewed study of Hume now led Kant to the final repudiation of speculative metaphysics and to the development of his own "critical philosophy." Kant never doubted the validity of the basic principles of mathematics and physics; it was realized that Hume's position, consistently allowed through, must lead to skepticism not only with respect to metaphysics, but with respect to the natural sciences as well. He was therefore forced to re-examine the position he himself had taken in 1770. His problem was to reconcile that which is irrefutable in Hume's skepticism with the postulate of a necessarily and universally valid cognition in the exact and natural sciences. Conceived in its broadest sense, this problem became, for Kant, the problem of the possibility of an objectively valid cognition as such. The key to Kant's "critical" solution of this problem lies in his method of analysis, which is neither psychogenetic nor merely logical. It is a method which makes cognition itself the subject matter of inquiry, aiming at the disclosure of the very conditions which make valid cognition possible. Kant called it the transcendental method. He was convinced that certain judgments, which he called "synthetic *a priori*," are the indispensable presuppositions of all sciences. These judgments are "synthetic" in so far as they contribute to the content of knowledge (as do empirical judgments); and they are "*a priori*" because they are "necessarily and universally valid" (as are analytic judgments). Kant's specific problem is, therefore, How are synthetic *a priori* judgments possible? His solution is that sense impressions and our understanding are independent but supplementary sources of knowledge, that true knowledge is found only where both contribute to it, and that whatever our senses and our understanding contribute to knowledge is preconditioned by the "forms of our sensibility" (space and time), and by the "categories of our understanding" (quantity, quality, relation, modality, and their sub-forms). Synthetic *a priori* judgments are rooted in those forms and categories and are therefore valid for every object which appears under the

forms of our sensibility or is thought of in terms of the categories of our understanding. (For details see entry under CRITIQUE OF PURE REASON.)

Kant believed that the *Critique of Pure Reason* demolished all speculative metaphysics and natural theology but provided a dependable foundation for science. His conclusion was that cognition is restricted to the realm of phenomena, that we can know nothing which cannot be given through our senses, but that within these limitations we may have valid empirical knowledge (derived from observation and culminating in the special laws of nature), and a cognition *a priori* of the universal conditions which make nature itself and a science of nature possible. The empirical knowledge of special laws is the proper province of the scientist; the cognition *a priori* is that of the philosopher of nature. Kant dealt with this in his *Metaphysical Foundations of Natural Science*. His first step beyond the conclusions of the *Critique of Pure Reason* was the introduction of the empirical concept "matter" by applying the category "substance" to the appearances of the "outer sense" (space). Initially, matter was for Kant a movable substance in space. However, this concept gradually gave way in Kant's thinking to that of "force," for matter does not simply occupy space, but occupies it under the dynamic aspects of attraction and repulsion. Repudiating the atomism of his time, Kant thus accepted a theory of the dynamic continuity of forces. But it follows from the principle of causality that every change of a material body in space must have a cause external to itself. The transition from rest into motion and from motion into rest must therefore have an external cause, and this fact logically implies the law of inertia. Furthermore, it follows from the category "interaction" and the law of inertia that, in the transmission of motion, action and counteraction must always be equal. Kant thus shows that the whole of Newtonian mechanics can be deduced *a priori* from the fundamental conditions of empirical cognition as such.

Although the universal principles of nature, being the indispensable conditions of the possibility of cognition, must hold for the realm of living beings no less than for the rest of the universe, they are not in themselves sufficient to explain the phenomena of life. A "mechanics of a blade of grass" is impossible. Here the concept of teleology must supplement the categories of the understanding. For Kant, however, teleology is merely an auxiliary principle which is applied whenever the causal relation as such is not clear unless the idea of the effect is regarded as determining the cause, i.e., when what is can be understood only in terms of what is to be. The idea of teleology is useful when we deal with processes in the living organism, or with nature as a whole. In Part II of the *Critique of Judgment* Kant developed these ideas at length. With respect to the living organism Kant's point is that the organism as a whole is determined by the structure and function of its parts while at the same time the structure and function of the parts is determined by the organism as a whole. This interaction of parts and whole constitutes an insurmountable obstacle for any interpretation of nature, such as the mechanistic, which is restricted to a one-dimensional causal sequence. "Life" is thus a boundary concept which delimits the sufficiency of a mechanistic view of the world. Still, Kant hoped that a principle of "genetic development" (evolution) might enable us to understand the development of

species from some original form of life. With respect to nature as a whole, Kant saw the need for a teleological approach in the interdependence of the specific laws of nature which, taken together, constitute an all-inclusive system. This "system of nature" cannot be known *a priori*, nor is it empirically demonstrable, for nothing can be demonstrated empirically about nature as a whole. But to think of nature and the world order as if they were the achievement of an infinitely intelligent being, i.e., to think of them in terms of an ultimate purpose, might greatly aid our understanding of them. In Kant's opinion, however, the only purpose which, being ultimate, can also be an end for everything else must be a being capable of positing for itself unconditionally some goals of action. Only a human being, as moral person, fulfills this requirement. To make possible the existence of moral beings living under moral laws may thus be regarded as the highest purpose of nature.

At this point the crucial question of critical philosophy arises in a new form: Are there laws which determine man's volition in an *a priori* manner, and wherein is grounded their claim to universal validity? Kant holds that the existence of such laws is disclosed in the value judgments pertaining to the conditions of human volition. He finds, however, that two kinds of such judgments are possible, namely, judgments of usefulness (which are conditional and therefore not universally valid), and moral judgments which at least claim universal and unconditional validity. This claim to unconditional validity is justifiable only in terms of some universal norm which is valid for all rational beings, and such a norm, according to Kant, is the moral law. Upon the all-encompassing background of universal natural laws there arises thus a narrower realm of moral laws. Now a law of nature states what, under specified conditions, *must* occur and what therefore actually occurs. The moral law, on the other hand, demands what *ought* to occur irrespective of whether or not it actually does occur. The question concerning the existence and validity of *a priori* laws in the sphere of morality thus leads at once to the question of the nature of moral laws and the possibility of reconciling them with the laws of nature; and this question in turn leads to the problem of free will—the basic problem of critical ethics. Kant holds that the moral value of an act stems exclusively from the inner attitude of the person, that is, it stems from the "maxim" which determines the action. However, if the maxim is merely subjective, then it cannot be a moral law. This means that a maxim takes on the character of a law only when all elements which may vary from person to person and from situation to situation, and which are only empirically determinable, are eliminated from consideration. Even an attempt to derive the moral law from a universal self-love must fail because self-love leads at best to hypothetical imperatives of the form: if you desire such and such a goal, then you must do so and so. Such imperatives are at best counsels of prudence; they are not moral laws. But if all "material determinations" of the will are unsuitable as foundation for the moral law, then the criterion of such a law can lie only in its form. As Kant put it: "Act only on that maxim through which you can at the same time will that it should become a universal law." A law, however, which we can wish to be valid universally has the character of a law of

nature. Hence Kant's second formulation: "Act as if the maxim of your action were to become through your will a universal law of nature." It follows that, for Kant, the moral worth of a person is determined, not by what that person does, but by the spirit in which he does it. "It is impossible to conceive anything in the world, or even out of it, which can be taken as good without limitation, save only a good will." Empiricistic and rationalistic interpretations of morality are wide of the mark because they place the good not in the will but in something external to it. The moral law demands, however, that the will be its own autonomous lawgiver. The moral law is in that case but an expression of the autonomous will itself. Because man is capable of giving laws to himself he ceases to be a thing and becomes a person, and as person and autonomous lawgiver he possesses human dignity and an infinite worth. To be sure, the individual may be sinful, but the idea of humanity within him is sacred. Therefore, "So act as to use humanity, both in your own person and in the person of every other, always at the same time as an end, never simply as a means."

If human beings were purely rational beings, their awareness of the moral *ought* would at once imply the fulfillment of the *ought*. But human beings, being what they are, are willing to do what they recognize as good only when doing it promises them pleasure or advantages. This tendency is the "radical evil" in man. Against such actions "from inclination" Kant emphasizes the significance of duty. Whereas inclination is rooted in self-love, duty arises from a respect for the law. Only that act is morally praiseworthy which is done out of respect for the law, or for the sake of duty itself. Kant did not mean, however, that an act is moral only when it is done without inclination or even against inclination. What he meant is rather that the moral law demands complete purity of motive, and that such purity is encountered only where the conception of duty alone determines our actions. The moral law does not demand the eradication of sensuous inclinations and desires; but it does demand categorically that their exclusive determination of the will be broken. When the relative rank of reason and sensuousness, demanded by the moral law, has become habitual, we have risen from slavery (to our appetites and passions) to that inner freedom which it is our duty to achieve through inner self-discipline. Only to the degree to which we realize this freedom have we become persons. However, the possibility of this freedom cannot be explained in terms of the nature of man as an empirical being. For in the realm of nature causal necessity prevails. But Kant points out that the moral law does not say what takes place always and everywhere. The basic difficulty lies in the fact that the moral law demands that the will be capable of spontaneously originating an action which, as an actual event in space and time, is part of the causally determined world of phenomena. Kant's solution lies in the thesis that we are "citizens of two worlds." As citizens of the phenomenal world we are subject to causal determination, but as citizens of an intelligible world we are autonomous law-givers in a universal "kingdom of ends."

Kant's *Critique of Practical Reason* has thus prepared the ground for the more concrete considerations of the *Metaphysics of Morals*. Here Kant distinguishes between juridical and moral

lities. The former involve merely the conformance of our actions with laws; the latter pertain to moral attitudes or virtues. Again Kant attempts a reconciliation of empiricism and rationalism. Empiricism sees our duties toward humanity in whatever will contribute to the happiness of man; rationalism sees them in achieving perfection. But our own happiness cannot be our duty because, by natural inclination, we already strive to achieve it. The perfection of other persons cannot be our duty because perfection cannot be imposed from without; everyone must attain it for himself. Kant's synthesis is that we ought to strive to achieve our own perfection, and that we ought to contribute to the happiness of others. But since the natural freedom of man consists in his ability to act in accordance with his own decisions, there is danger that the various spheres of freedom of different persons will interfere with one another. Reason demands therefore that, in order to assure the freedom of others, each individual impose certain restrictions upon his own freedom. The result will be a system of laws which defines the conditions under which, in conformity with a universal principle, the wills of all are brought into harmony. People living under such a system of laws constitute a state. Kant's argument is here reminiscent of Thomas Hobbes'; but his orientation and motivation are radically different. The sole purpose of the state and of the creation of states is the preservation of law and justice. No considerations of "welfare" can be substituted for this. But the attributes of a citizen are freedom (or the absence of all compulsion save that necessary for the enforcement of law), equality before the law, and civic independence. Although Kant was in sympathy with the Constitution of the United States, he was convinced that no ideally perfect constitution can ever be devised and that it is therefore the duty of a citizen to obey the laws under which he lives. In history, however, Kant saw the slow progress of mankind from an original state of nature to a state in which reason guides the moral self-determination of man. This progress cannot be proved, for too many facts seem to contradict it; but Kant accepts the belief in progress as a demand which, when acted upon, will lead to its realization. Humanity is thus an ideal to be achieved.

The relation between nations is to be governed by law. Wars are to be conducted in such a way that it is always possible to establish a peace which will not lead to new wars. But since recurring wars are devastating, means ought to be sought to avoid them. Kant believed that "perpetual peace" can be achieved through a League of Nations which unites the nations of the world under law in the same way in which a state unites its citizens. The only stumbling block to the full realization of this goal Kant saw in "the false pride of national sovereignty," which can be overcome only by education in world citizenship. Moreover, only through education can one become a human being in the full sense. The process of this education involves (1) that the natural "wildness" of the child be restrained through discipline, (2) that the child's mind be cultivated through instruction and training, (3) that the child be prepared for communal living, and (4) that his moral development be assured through the proper conditioning of his will. The goal of all education is the enlightened moral person. But "the heaven of childhood" is not to be clouded.

In the field of aesthetics, which deals with the beautiful and the sublime, judgments of taste also claim universal validity. Kant shows in Part I of the *Critique of Judgment* that the ground of these judgments, being our experience of pleasures and displeasures, is subjective. The judgments, nevertheless, claim objective validity. Kant takes this to mean that they constitute a "command" to agree with them; that they presuppose an aesthetic sense shared by all which makes communication in aesthetic matters possible and thus raises aesthetic experience beyond the sphere of the merely private and subjective. But the objects themselves are not beautiful or sublime; we ascribe these qualities to them because of the effects which they have upon us. The effects depend, however, on certain qualities of the objects. In the case of the beautiful, these qualities call forth the harmonious interplay of our imagination and understanding. In the case of the sublime, they lead to a pleasing resolution of an opposition of our sensibility and reason. In a manner of speaking we may say that the objects in question are "adjusted to" our faculties of aesthetic experience. They are in this sense "purposiveness without (external) purpose," and this purposiveness without utilitarian purpose which induces aesthetic enjoyment is the proper object of aesthetic evaluation. The emotional and the rational aspects of the aesthetic experience have thus both been incorporated into Kant's theory. Ultimately, however, the sensuous-intuitive object of aesthetic experience becomes for Kant a symbol of the morally good, a sensuous representation of a moral ideal.

When the moral laws are conceived as if they were imposed by a divine Creator, then a turn into the religious has been taken. Religion is thus for Kant but the "apprehension of all duties as divine commands." The facts of moral consciousness constitute the only admissible foundation for religion. The moral law is not compelling because it is God-given, but because it is compelling it can be interpreted as if it were of divine origin. There are, however, also other considerations which lead to religion. Thus, the categorical imperative remains incomprehensible in a completely determined nature; religious faith may here achieve a reconciliation. Also, the moral law demands unconditionally the fulfillment of duty, but the nature of a sensuous being (like man) demands happiness. Justice demands that the two be ultimately reconcilable, the harmony of virtue and happiness being the highest good. The ideal of the highest good thus presupposes a moral world order which, in turn, presupposes a rational will as Creator. The existence of God is therefore, for Kant, a "postulate of practical reason." As such it remains a matter of faith, not of proof. The pragmatic test of this faith is its effectiveness in the moral attitudes of men. The various positive religions are historico-traditional adumbrations of this basic "religion of reason," and are significant only to the extent to which they embody the moral law and have moral consequences in the actions of men. Christ is thus the ideal of perfect humanity, and faith in Christ is faith in the power of this ideal. Everything else in Christian theology is unimportant or is but a means by which a priestly class, which presumably is in the privileged possession of the means of dispensing grace, attempts to control the faithful. The achievement of a pure religion of reason is the task of the future. It presupposes the shedding of the traditional dogmatism of all

positive religions. This goal Kant envisioned in *Religion Within the Limits of Pure Reason*.

The reaction to Kant's philosophy was immediate and strong. The disciples of Christian von Wolff, in particular, were quick to respond. Johann August Eberhard founded two periodicals, the *Philosophisches Archiv* and the *Philosophisches Magazin*, devoted to the refutation of Kant. At Marburg, Johann Bering was forbidden to lecture on the new philosophy. Empiricists, such as Adam Weishaupt, Christoph Meiners, Friedrich Selle, and Dietrich Tiedemann, attacked Kant's "rationalism." Moses Mendelssohn attempted to salvage the traditional proofs for the existence of God. Christoph Friedrich Nicolai wrote pamphlets against Kant. In the field of religion a strong reaction to Kant's "intellectualism" developed. It was spearheaded by Johann Schultz and Johann Georg Hamann at Königsberg, and vigorously supported by Johann Gottfried von Herder and Friedrich Heinrich Jacobi. Perhaps the most formidable early opponent of Kant's philosophy was Gottlob Ernst Schulze at Göttingen, who had a profound influence upon Arthur Schopenhauer.

The younger philosophers, however, turned more and more to Kant as their intellectual leader. At Halle they published the *Annalen der Philosophie und des Philosophischen Geistes*, which was devoted to a defense of the Kantian system. At Jena, Christian Friedrich Schmid published his *Wörterbuch zum leichteren Gebrauche der Kantischen Schriften* (1788); and here also the *Neues philosophisches Magazin zur Erläuterung des Kantischen Systems* lived up to its name. Jena soon became the center of Kantian idealism and of its development into Absolute idealism. Here Karl Leonhard Reinhold, in his *Briefe über die Kantische Philosophie* (1786-1787), gave direction to that development; but here also Johann Christoph Friedrich von Schiller, Johann Gottlieb Fichte, Jakob Friedrich Fries, Friedrich Wilhelm Joseph von Schelling, and Georg Wilhelm Friedrich Hegel made their important contributions.

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KANTARAWADI or **KANTARAWADDY**, kân'tu-râ-wâ-dē, one of the former three independent Karenni States of Upper Burma (the other two being Bawlake and Kyebogyi) having an area of 3,161 square miles. Its capital was Loikaw. The countryside is mostly hilly

jungle in which teak is cut. There is some rice growing. Becoming a constituent part of the Union of Burma in 1947, with its sister states it formed a part of the Karenni State, more recently renamed Kahyah States. The population of Kantarawadi in the 1941 census was 30,677.

KANTEMIR. See CANTEMIR.

KANTOR, kân'tēr, MacKinlay, American author: b. Webster City, Iowa, Feb. 4, 1904. He began as a journalist with the *Webster City Daily News* (1921-1924), later living in Chicago and elsewhere. In 1934 he published *Long Remember*, a novel of the Gettysburg campaign, his first success, which was followed by *The Voice of Bugle Ann* (1935), probably the most widely read of his works. After 1934 he also wrote scripts for motion pictures, and was the author of the original story for the film *The Best Years of Our Lives*. His other books include *Diversey* (1928); *El Goes South* (1930); *The Jaybird* (1932); *Arouse and Beware* (1936); *The Romance of Rosy Ridge* (1937); *The Noise of Their Wings* (1938); *Valedictory* (1939); *Cuba Libre* (1940); *Happy Land* (1943); *Midnight Lace* (1948); *The Good Family* (1949); *Signal Thirty-two* (1950); *Don't Touch Me* (1951); *Warwhoop* (1952); *The Daughter of Bugle Ann* (1953); and *Andersonville* (1955). He was a war correspondent in Korea in 1950, and from 1951 to 1953 served as technical consultant with the United States Air Force.

KANTOROWICZ, kân-tō-rō'vich, Hermann, German jurist and scholar: b. Posen (Poznan), Nov. 18, 1877; d. Cambridge, England, Feb. 12, 1940. He was educated at the universities of Berlin, Geneva, Heidelberg and Munich. From 1908 to 1913 he taught at the University of Freiburg, later serving with the German Army during World War I. From 1923 to 1929 he was an expert on the Reichstag committee to investigate the origin of the war, and was widely known for his assertion that the belief of the imperial government that the empire was being "encircled" by Great Britain was a basic cause of World War I. From 1929 until Hitler came to power he was a professor at the University of Kiel, being dismissed in 1933. Thereafter he lectured in New York at the New School for Social Research and at City College, and in England at Oxford and Cambridge. His works include *Der Kampf um die Rechtswissenschaft* (1906) and *Dictatorships* (1935).

KANUKU MOUNTAINS, kúnōō'kōō, in southern British Guiana. A spur of the Guiana Highlands, they extend about 80 miles eastward from the Rio Branco (Brazil) border just north of Lat. 3° N. The mountains are situated in a sandstone plateau district of about 2,500-foot elevation traversed by the Rupununi River, a major tributary of the Essequibo. A rich savanna area, it is well suited to cattle raising and one of the few parts of the country's interior not covered by a tropical rain forest of one kind or another. There are said to be uranium ore deposits in these mountains.

KANURIS, kâ-nōō'rîz, certain Negroes of the Sudan and especially of Bornu, Kanem, and Chad parts of the country. They number about 3,500,000, most of whom are said to have an admixture of Hamite blood. Their features

are broad, flat and decidedly Negroid. They belong to the Mohammedan faith.

KAOLIN, kă'ô-lin, or **KAOLINE**, certain white-burning clays of a residual nature formed by the wearing away of granite, pegmatite, schist, limestone or feldspathic quartzite. It is a soft clay of low plasticity and very refractory when burned. There is a large production of kaolin in Europe, where it is mined principally in England, France and Germany, one of the richest mining districts being in Cornwall, England. Consult Ries, H. and Bayley, W. S., *High-Grade Clays of the Eastern United States* (Washington 1922).

KAPITAL, DAS, the largest and most comprehensive work written by Karl Marx, the ideological founder of Communism. The first volume of *Das Kapital* discusses goods and money, and was first published in 1867. The second and third volumes, devoted to circulation of capital and the process of capitalist production, first appeared in print in 1884 and 1890, after Marx's death. The three volumes constitute a profound and well-documented humanitarian criticism of the faults of the profit system, as it existed in British economy of the mid-19th century during the early throes of the Industrial Revolution. Marx's main thesis was that the modern capitalist form of society tends to make the rich richer and the poor poorer. He did not foresee that in the subsequent 20th century, both the governments and organized labor of well-developed capitalist countries, as well as businessmen themselves, have eliminated many of the faults of which he complained.

Despite being somewhat out-of-date, *Das Kapital* has had, and continues to have, more influence in world economic thought than possibly any other economic book. Even though disagreeing with its conclusions, capitalist economists consider it one of the best economic studies of all time. Most of the strong socialist parties of the present day would take their views of society from *Das Kapital*.

However, there is a sharp difference of opinion between modern socialists and Communists in interpreting Marx. Moderate socialists, such as the British Labour Party, accept the ideas set forth by *Das Kapital*, but reject certain other writings by Marx, such as the *Communist Manifesto*, which give a program of action to overthrow capitalism by force. In contrast, the Communists consider both *Das Kapital* and the *Communist Manifesto* as part of an organic whole, the former expounding the theory, and the latter the method to put theory into action.

Das Kapital, though primarily an attack on the English economy of Marx's day, also contains Marx's complete philosophy of history, and from that viewpoint is often studied by historians of philosophy with little interest in economics. Political scientists also read *Das Kapital* extensively. The present government of Soviet Russia uses the book almost as a bible.

KAPOK, kă'pök, a kind of silk cotton. See SILK-COTTON TREE. -

KAPP, kâp, Friedrich, German biographer and historian: b. in Hamm, Westphalia, April 13, 1824; d. Berlin, Oct. 27, 1884. He left Germany at the outbreak of the Revolution of 1848,

and settling in New York in 1850 took active part in American politics. In 1860 he was a presidential elector and in 1867 commissioner of immigration. Returning to Germany in 1870, he entered the Reichstag in 1872. His works, which mainly refer to the United States, include *American Soldier Traffic by German Princes* (1864); *German Emigration to America* (1868); *History of the German Migration into America* (1867); *Frederick the Great and the United States* (1871); *Aus und Über Amerika* (2 vols., 1876).

KAPP, Wolfgang, German politician, son of Friedrich Kapp: b. in New York, July 24, 1868; d. Berlin, June 12, 1922. He was a founder of the Fatherland Party and, in 1918, a member of the Reichstag. Heading a revolt (the "Kapp putsch"), he supplanted the republican government in Berlin, March 13, 1920, but when foiled by a general strike of labor he fled to the country, March 17. He was arrested on return from exile in Sweden, April 1922, and died in prison awaiting trial for treason.

KAPPEL, kâp'êl, town in Zürich Canton, Switzerland; noted as the scene of the death of the Protestant reformer Zwingli in 1531. The place contains a monument to his memory. Pop. about 700.

KAPTCHAK. See KIPTCHAK.

KAPURTHALA, kâ-poor'tâ-lâ, India, one of the union of Sikh states, inaugurated July 15, 1948. It lies within the Punjab province of India, the capital being about 60 miles southeast of Lahore. The area is 645 square miles, and the population numbers 378,380 (1941). Cereal crops, cotton, sugar, and tobacco are exported. The maharaja is the vice president of the Sikh states for life.

KARA-KALPAK, kâ-râ-kâl-pâk', **AUTONOMOUS SOVIET SOCIALIST REPUBLIC**, or **KARAKALPAKIA**, an administrative subdivision of the Uzbek SSR, Soviet Central Asia, west and south of the Sea of Aral. The name means "Black Bonnet," referring to the shaggy sheepskin caps of the inhabitants. The area is 79,631 square miles; the population comprises Kara-Kalpaks, Uzbeks and Kazaks. The capital, Nukus, is situated on one of the numerous irrigation canals; other towns are Turtkul, Chimbai and Takhta Kupyr. Stock raising is the main industry. Fleece of Karakalpakia's astrakhan sheep is highly valued in world markets. Cotton and alfalfa growing are of increasing importance. Russia occupied the region in 1867. After the Bolshevik Revolution the Karakalpak ASSR was incorporated with Uzbekistan. Pop. (1941 est.) 436, 995.

KARA KUM, kâ-râ' kôom' (Russ., black sands), a desert of Soviet Central Asia. It lies mostly within the Turkmen SSR, and on the northwest extends into the Kazak SSR.

KARA SEA, an arm of the Arctic Ocean indenting the north coast of Siberia, between Nova Zembla and Yamal Peninsula; it is about 300 miles long and 170 miles wide.

KARACHAI, kâ'râ-chî', formerly an autonomous region in the Ordzhonikidze Territory of

the Soviet Union, at the headwaters of the Kuban in the Caucasus Mountains. It was dissolved for treasonable activities in World War II. Its area was 3,821 square miles, and the estimated population (1941) was 157,541.

KARACHI, ká-rá'chí, capital and chief seaport of Pakistan, in Sind Province (in the Federal Capital Area administratively excluded from Sind), on the Arabian Sea between the Baluchistan border and the delta of the Indus River, which here forms a backwater behind Manora Point. The city has water and rail connections with Hyderabad and the valley of the Indus, and also has excellent air communications with other cities of Pakistan, India, and Europe. The main industries are cementmaking and fishing; chief exports are wheat and raw cotton. Karachi was made the capital of Pakistan in 1947 because of its defensible location and also because its well developed communications network facilitated development of close economic and cultural relations with Moslem nations of southwest Asia. Pop. (1951) 1,005,000.

KARADZIC, ká-rá'jê't-y', or **KARAJICH**, **Vuk Stefanović (Stefanovich)**, Serbian scholar: b. Tršić, Serbia, Oct. 26/Nov. 7, 1787; d. Vienna, Austria, Jan. 26, 1864. He modernized the old Slavic alphabet and thus reformed the literary language of Serbia. He published a Serbian-German-Latin lexicon (1818), a collection of Serbian folk tales (1821) and folk songs (1823), a translation of the New Testament into Serbian (1847), and other important works.

KARAGANDA, ká-rá-gán-dá', city, Soviet Union, in Kazakh Soviet Socialist Republic, capital of Karaganda Oblast, and the center of the Karaganda coal basin, is 120 miles southeast of Akmolinsk, on the railroad linking Petropavlovsk with Balkhash. Sawmilling, and the manufacture of mining equipment, bricks, and cement are the chief industries. Pop. (1947 est.) 220,000.

KARAGEORGE, kár-á-jôrj'; or **KARADJORDJE**, ká-rá-dyôr'dyê; (also **CZERNY DJORDJE**, chër'ní dyôr'dyê; or Serbian, **CRNI DJORDJE**, tsûr'nê), all meaning Black George; (original name **GEORGE PETROVIĆ**, pè'trô-vêt-y'), Serbian leader against the Turks and founder of Karageorgevich dynasty: b. Viševac, Serbia, 1752/1762; assassinated at Smederevo, July 13, 1817. He served in the Austrian Army (1788-1791), became leader of the Serbian rebellion against Turkish rule (1804) and was elected hereditary military leader in 1808, but was defeated in 1813 and fled to Hungary. Returning to Serbia in 1817, he was slain in his sleep by members of a rival political faction.

KARAGEORGEVICH, kár-á-jôrj'jê-vich; Serbian, **KARADJORDJEVIC**, ká-rá-dyôr'dyê-vêt-y', the Serbian dynasty founded by Karageorge in 1808. Its rulers were Prince Alexander (r. 1842-1858); King Peter I (r. 1903-1921); Alexander (regent 1914-1921; king of Yugoslavia 1921-1934); Peter II (r. 1934-1941).

KARAISKAKES or **KARAISKAKIS**, ká-rá-ê-ská'kyês, **Georgios**, Greek leader in war for independence from Turkey: b. Agrapha, Greece, 1782; d. Athens, May 4, 1827. He joined Ali Pasha, of Janina, in his warfare against the

Turks, but eventually transferred allegiance. In turn, he deserted the Turks, when the Greeks revolted against them in 1821, and became one of his country's principal leaders in the struggle that followed. Karaïskakes participated in the victorious defense of Missolonghi during 1822-1823, and was one of the unsuccessful defenders of the town in 1825-1826. He was killed during the Turkish attack on the Acropolis.

KARAITE or **QARAITE**, ká-rá-it (From Ar. *qur'an*, to read), the name of a religious doctrine which, like Christianity, originated in a Middle Eastern Jewish environment and later spread among other peoples. It was formulated at Baghdad in the 8th century by the Hebrew, Anan ben David, in collaboration with the Moslem, Aba (Abu) Hanifa (q.v.), the theologian and reformer whose sect, most esteemed of the four major schools of orthodox Islam, has many adherents in modern Turkey. Down to modern times religious Jews have repudiated Karaism much as they repudiated early Christianity.

Karaism first gained wide attention in 767 when the exilarch (official leader of the Jewish community in Babylonia) summoned Anan ben David, a defeated candidate for the exilarchy, before the Baghdad tribunal demanding his execution on the ground that the new doctrine he professed was a Jewish sect. Conviction on such a charge always involved the death penalty, for Almanzur (q.v.), Abasside caliph of Baghdad, tolerated in his realm only fundamental orthodox religions and executed sectarians. The case was tried before Arab judges presided over by Almanzur. The plaintiff's demand was unanimously rejected, and the erudite caliph, becoming interested in Anan's religious ideas, bestowed on him and his followers his personal and official protection. Later the Orthodox Christian Church followed the Islamic example in protecting the Karaites. Significantly, Anan and his most notable followers wrote their works in Arabic.

Karaite doctrine acknowledges one source of the Law: the Old Testament of the Bible in the version adopted by the Christian church. It rejects the Talmud and rabbinical interpretations. Anan's legacy to his adherents was the precept: "Search thoroughly the Scriptures and do not rely upon my opinions." Thus he enhanced the influence of the Bible among them and helped to develop their powers of criticism. Like Jesus Christ, he taught that the Bible should be interpreted through its moral, rational and symbolic meanings, and not with the strict literalness prescribed by the Jews. Karaite prayers are composed on the basis of Biblical texts.

Karaism recognizes Jesus and Mohammed as great prophets. Its dogmas and principles have been borrowed both from Christianity and Mohammedanism. For example, the commandment, "Thou shalt love thy neighbor as thyself," was taken from the Christians; belief in transmigration of the soul (metempsychosis) was borrowed from the pre-Islamic Arabs; while from Islam itself was borrowed the determination of feast days by direct observation of the moon, the status of women and marriage, and numerous rites and customs such as the obligation to remove the shoes on entering a *kenassa* (church), embellishment of *kenassas* with carpets, and the fountains adjoining them for ablutions.

King Charles XI of Sweden (1655-1697) became interested in the tenets of Karaism. On

several occasions he sent theologians to Lithuania, where dwelt a small colony of the sect, to study their creed. Finally he invited two learned Karaites, fluent speakers of Latin, to visit him in Sweden. His son, Charles XII (1682-1718), also corresponded with the Karaites, seeking further information on their beliefs.

The Karaite ecclesiastical organization is independent and its spiritual sovereignty is recognized by laws of the various countries inhabited by Karaites. The head of the church, called the grand khan and elected for life, is likewise the political representative of his people. At present (1949) the grand khan is S. M. Schapschal (elected 1914), professor of Turkish language and history at the University of Wilno, Lithuania. Before the Bolshevik revolution he occupied the same chair in the Imperial University of Petrograd.

Priests of the Karaite Church are trained in the Karaite Ecclesiastical Seminary of Alexander at Eupatoria in the Crimea.

The Russian Karaites comprise an autochthonous population, all of Crimean descent. Their creed was brought to the Crimea in the 9th century by a disciple of Anan, I. Sangari whose tomb was found in an ancient Crimean Karaite cemetery. At that time the Crimea's southern coasts comprised a Germanic state, established in the 3d century by the Goths and called Gothia; it was chiefly the inhabitants of the fortress town of Kirkor (Qyrq-ier) in this region who adopted the Karaite confession. These converts were primarily of Turkish stock and had lived in the peninsula from time immemorial. Thousands of caverns, excavated in the rocks on which the Kirkor fortress (now a ruin east of the city of Bakhchisarai) was built, afford one of the most remarkable archaeological curiosities in the Crimea.

The Karaite language is an ancient Turkish dialect of the northwest. The dress, customs, manners, and legends of this people are similar to those of other Turkish peoples. Having translated the Bible and their prayers into their native tongue, they sealed the original versions as holy relics in the walls of kenassas. Thus, in the 19th century the oldest existing manuscript version of the Bible (916 A.D.) was discovered in the ruins of a kenassa, and deposited in the Imperial Library of St. Petersburg under the title *Codex Babylonicus Petropolitanus*.

Although the number of Karaites in the Crimea has always been small compared with the total population, which sometimes numbered a million inhabitants, they long played a preponderating role by reason of their honesty, hospitality, and exemplary behavior. When the Tatars became masters of the country in the 13th century, they confided to the Karaites important administrative posts, including responsibility for coining money and collecting taxes. In his campaign on the lower Dnepr in 1396 Witowt (Vytautas), grand duke of Lithuania, disastrously defeated the Tatars and their ally, the Karaite khan of Kirkor. Duke Witowt's Crimean captives included 500 Karaite and 10,000 Tatar families whom he brought back with him to Lithuania. Later, he was so well satisfied with his new subjects that he constituted his personal guard of Karaite soldiers. Down to present times descendants of these captured Karaites and Tatars have lived in mutual amity near the city of Troki, Lithuania, where they comprise a farming com-

munity. Of these, the Karaites number about 600 persons. They preserve not only their ethnic physical characteristics but the ancestral religion and language.

In the 17th century a Karaite, Eliasch Karaimovich, was elected hetman (leader) of the kossacks of Zaporozhe on the Dnepr, an honor rarely accorded a foreigner.

In 1783 the Crimea was annexed to the Russian Empire, and since invasions of the peninsula were thereafter no longer to be feared the Karaites abandoned the fortress of Kirkor and settled in the modern cities of the region. The Russians granted them full civic rights and even some privileges. Many became officers of the Russian Army. Karaites were elected mayors of nearly all the Crimean cities and, after the establishment in Russia of parliamentary government (1905), a Karaite, agricultural engineer S. S. Krymm, was regularly re-elected deputy for the Crimea.

Horticulture and agriculture are the chief occupations of the Karaites. Some are well educated and have contributed much to the development of farming in their districts.

The Karaites have never constituted a large group, for since the 10th century they have admitted no new members and even descendants of mixed marriages have been excluded. According to the last census, made in 1910, they numbered about 13,000, almost all living in Russia. Since the Bolshevik Revolution (1917) their numbers in the USSR have dwindled. Those remaining there have been dispersed throughout different Soviet Republics. Some hundreds emigrated to western Europe and the United States.

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PASTAC.

KARAJICH, Vuk Stefanovich. See KARADZIC, VUK STAFANOVIC.

KARAKORUM, kă'ră-kô'rûm, or **KARAKORAM**, a range of mountains in the northwest Himalaya (q.v.) mountains.

KARAKORUM (Mongol, *kara*, black, *ku-ren*, camp), the name of two ancient cities in northern Mongolia. The older city, also called Holin, was about 210 miles southwest of Urga near the Orkhon River, and was founded in the 8th century as capital of the Uighur kingdom. The later Karakorum, 15 miles to the southeast, was capital of the Mongol Empire from 1234 to 1409. Marco Polo visited it in 1275. At one time it was connected by canals with the Jir-manta River.

KARAKUL, kăr'ă-kûl, or **KARAKULE**, a breed of broadtail sheep native to the province of Bukhara, USSR, and suited to semiarid regions. The body is narrow and the brown fur of the mature animal is coarse and wiry. Newborn lambs have tightly curled glossy black coats;

their pelts are called variously karakul, broad-tail, astrakhan, and Persian lamb. Karakul sheep were first imported into the United States in 1908.

KARAMZIN, kŭ-rŭm-zyĕn', **Nikolai Mikhailovich**, Russian writer: b. Mikhailovka, Orenburg (now Chkalov Oblast), Russia, Dec. 1, 1766; d. at Taurida Palace, St. Petersburg (now Leningrad), May 22, 1826. He was much influenced by English writers and by the teachings of Jean Jacques Rousseau, and his writings broke new ground for Russian literature. He founded the *Moscow Journal* (1790) in which appeared his *Letters of a Russian Traveler* (1790-1801) and his novels *Poor Liza* (1792) and *Natalia, the Boyar's Daughter* (1792). He also founded *The European Messenger* (1802). His most famous work was *History of the Russian State*, to 1613 (1819-1826).

KARAULI, kâ-rou'li, city, Republic of India, in Rajasthan State (1949), 80 miles southeast of Jaipur, in a farming area raising millet, gram, wheat, and cotton. It was the capital of the former princely state of Karauli. Pop. (1941) 19,177.

KAREL, kâr'ĕl, **Rudolf**, Czech composer: b. Pilsen (Plzen), Bohemia, Czechoslovakia, Nov. 9, 1880; d. Teresin, March 3, 1945. His works show skillful use of variation and a tendency to polyphony. Among them are the opera *Ilse's Heart* (1909); *Symphony in D Minor* (1911); and the symphonic poems *Ideals* (1909; 1929) and *Demon* (1911).

KARELO-FINNISH SOVIET SOCIALIST REPUBLIC, kâ-rĕ'lô-fin'ish (KARELIA), a constituent republic of the Soviet Union, bounded north, east, and south by Russian Soviet Federated Socialist Republic, west by Finland. It has an area of 68,900 square miles and is wooded and hilly, with numerous lakes, the largest being Top, Seg, Vyg, and Onega. The chief industries are lumbering and paper and pulp milling; building stone (especially granite and marble) is quarried; mica and iron are mined. The railroad from Leningrad to Murmansk crosses the republic, and a canal links Belomorsk on Onega Bay of the White Sea with Povenets on Lake Onega. Agriculture consists mainly of dairy farming and the raising of fodder crops. Petrozavodsk (pop. 80,000) is the capital. The Karelians are a Finnish people. Pop. (1947) 600,000.

KARIKAL, kâ-rî-kâl', a French enclave within Madras State, Republic of India, on the Coromandel Coast, Bay of Bengal, is an agricultural area of 52 square miles raising rice, millet, sugarcane, tobacco, and coconuts. The capital is Karikal (pop. 1952 est. 24,700), officially a free city since 1947. Acquired by the French in 1739, occupied by the English in 1803-1814, the settlement was returned to French authority in 1817. Pop. (1946) 70,541.

KARLFELDT, kârl'fĕlt, **Erik Axel**, Swedish poet: b. Folkärna, Dalarna (Dalecarlia), Sweden, July 20, 1864; d. Stockholm, April 8, 1931. A graduate of the University of Uppsala, he was a member of the Swedish Academy (1904) and its secretary from 1912. The Nobel Prize

for literature was awarded him posthumously in 1931. His poetry includes *Vildmarks-och kärleksvisor* (*Ballads of the Woodlands and of Love*, 1895); *Fridolins visor* (*Fridolin's Ballads*, 1898); *Fridolins lustgård och dalmålningar på rim* (*Fridolin's Pleasure Garden and Dalecarlian Frescoes in Rhyme*, 1901); *Flora och Pomona* (1906); *Flora och Bellona* (1918); *Hörsthorn* (*Autumn Cornucopia*, 1927).

KARLI, kâr'li (also KARLA; KARLE), village, Republic of India, in Poona District, central Bombay, is famous for its 1st century carved rock cave temples. Pop. (1941) 634.

KARLOVAC, kâr'lô-vâts (Ger. KARLSTADT, kârl'shtât), city, Yugoslavia, capital of Karlovac Oblast, in the Pokupje region of northern Croatia, 30 miles southwest of Zagreb. It has foundries, lumber mills, machine shops, and manufactures of textiles, chemicals, and leather goods. Pop. (1948 est.) 23,885.

KARLOVCI SREMSKI, kâr'lôv-tsĭ srĕm'skĭ (Ger. KARLOWITZ, kâr'lô-vĭts), village, Yugoslavia, in Vojvodina, northern Serbia, is 6 miles southeast of Novi Sad, on the Danube River, in a vineyard and wine-making region. Here in 1699 a famous treaty of peace was signed between Austria, Turkey, Venice, and Poland. (See PEACE TREATIES—*Carlowitz*.) Pop. (1948) 5,670.

KARLOVY VARY. See CARLSBAD.

KARLSBAD. See CARLSBAD.

KARLSKRONA, kârls-krôō'nâ (CARLSKRONA), city, Sweden, capital of Blekinge County, 100 miles northeast of Malmö, on the Baltic Sea. It is a naval and air base, founded 1680. The chief industries are shipbuilding, granite quarrying, brewing, sawmilling, metalworking, and the manufacture of clothing and naval supplies. Pop. (1950) 30,997.

KARLSRUHE, kârlz'rôō-ĕ, or **CARLSRUHE**, city, German Federal Republic (West Germany), former capital of Baden and since 1945 administrative center of North Baden, is 32 miles south of Mannheim and 4 miles east of the Rhine River, with which it is connected by canal. It has an airport, railroad repair shops, and factories making gas and electric stoves, tools, machinery, and soap. Other industries are food processing, brewing, paper milling, printing, and pottery making. Pop. (1950) 198,014.

KARLSTAD, kârl'stât, or **CARLSTAD**, city, Sweden, capital of Värmland County, on Tingvalla Island and the north shore of Lake Vänern, has shipyards, lumber, pulp, and textile mills, and manufactures of chemicals, clothing, matches, leather goods, and fishing gear. The treaty ending the union of Sweden and Norway was signed here in 1905. Pop. (1950) 35,651.

KARLSTADT. See KARLOVAC.

KARLUK, kâr-lûk', village, Alaska. See KODIAK.

KARMA, kâr'mâ, a Sanskrit word meaning action or work. In Buddhism, Hinduism, and Vedanta (qq.v.) it has the meaning of causality

in the sense of every deed causing a sequence of good or evil in individual experience.

KARMAN, kār'mān, Theodore von, Hungarian-American aeronautical engineer: b. Budapest, Hungary, May 11, 1881. He was educated at the Royal Technical University, Budapest, and at the University of Göttingen. In 1930 he became director of the Guggenheim Aeronautics Laboratory at California Institute of Technology, and in 1945 director of the Scientific Advisory Board of the United States Army Air Force. He developed lighter and stronger aircraft fuselages, and did important research in supersonic aerodynamics and guided missiles. Von Kármán became a United States citizen in 1936.

KARMATHIANS, kār-mā'thī-ānz, a former Islamic sect founded by Hamdan Karmath in Iraq about 877, based on the teachings of the Ismailite Shi'ites and opposed to the orthodox Moslems and the caliphs of Bagdad. They had disappeared by the middle of the 11th century.

KARNAK, kār'nāk, village, Egypt, in Qena Province, on the east bank of the Nile River, one mile northeast of Luxor. It contains the ancient temple of Amen, famous for its hall of columns. Pop. (1947) 10,865. See THEBES.

KAROK, kār'rök (Indian KARUK, meaning "upstream"), the tribal name of the Quoratean family of American Indians formerly living on the Klamath River in northwestern California.

KAROLYI, kār'rō-lyi, COUNTS, a family of Hungarian nobility prominent in the history of Austria-Hungary. SÁNDOR (1668-1743), grandson of BARON MIHÁLY KAROLYI, was the first count (1712). COUNT MIHÁLY KAROLYI (b. Budapest, March 4, 1875) was president of the Hungarian Republic from January to March 1919, when he relinquished the office and went into exile. (See HUNGARY—History.) He returned to Hungary in 1946, and in 1947 was minister to France. He retired in 1949.

KARPATOS, kār'pā-thōs (ancient CARPATHUS or CARPATHOS; Ital. SCARPANTO, skār'pān-tō), island, Greece, in the Dodecanese group, 30 miles southwest of Rhodes, in the Aegean Sea. It is 30 miles long, from 2 to 6 miles wide, and is mountainous. Farming and fishing are the chief occupations. Pop. (1951) 7,396.

KARPELES, kār'pā-lēs, Gustav, Jewish literary historian: b. Eiwano-wits, Moravia (then part of Austria), Nov. 11, 1898; d. Bad Nauheim, Germany, July 21, 1909. He is best known for his *History of Jewish Literature* (1886), and his critical writings on Heinrich Heine.

KARPINSKI, kār-pēn'y'-skē, Franciszek, Polish poet: b. Holoskow, Galicia, Poland, Oct. 4, 1741; d. near Grodno, Sept. 16, 1825. He was noted for his idyllic and religious poetry.

KARR, kār, Jean Baptiste Alphonse, French writer: b. Paris, France, Nov. 24, 1808; d. Saint-Raphaël, Var Department, Sept. 29, 1890. He became editor of *Figaro* in 1839 and in the same year began publishing his satirical monthly pamphlets *Les Guêpes* (*The Wasps*). He also founded *Le Journal* (1848), but his po-

litical views offended Louis Napoleon and about 1855 he retired to the vicinity of Nice and devoted himself to gardening. His first and most celebrated novel was *Sous les tilleuls* (1832); other works included *Clotilde* (1839); *Geneviève* (1846); *la Famille Alain* (1848); *Lettres écrites de mon jardin* (1853); *Histoire d'un pion* (1854); *Au bord de la mer* (1860); *le Credo du jardinier* (1875).

KARRER, kār'ēr, Paul, Swiss chemist: b. Moscow, Russia, April 2, 1889, of Swiss parents. In 1892 his family returned to Switzerland, where he was educated at the University of Zurich. In 1919 he became professor and director of the university's Chemical Institute. Noted for his pioneer research on the carotenoids and flavins, and vitamins A and B₂, in 1937 he shared the Nobel Prize in chemistry with Walter N. Haworth of Great Britain.

KARROO, kā-rōō', a name adopted from a Hottentot word meaning dry or waterless, and designating a series of plateaus in the Union of South Africa. The three largest karroos are the North or Upper Karroo or High Veldt in Orange Free State; the Great or Central Karroo (2,000 to 3,000 feet elevation), and Little or Southern Karroo (1,000-2,000 feet), both in Cape of Good Hope Province and having a combined area of more than 100,000 square miles. They are mostly semi-arid grazing land supporting large herds of sheep and goats, but are fertile where irrigation is possible. Extensive areas known as karroo beds contain South African diamonds, fossils, and volcanic remains.

KARS, kars (ancient CHORSA), town, Turkey, capital of Kars Province, is located on the Kars River, 110 miles northeast of Erzurum, at an altitude of 5,750 feet. The province (7,107 square miles in area) is heavily forested and has natural resources of arsenic, some gold, and lignite; but agriculture and stock raising are the chief occupations. Town and province, once part of Armenia, were captured by Turks, Mongols, and Russians in turn, finally becoming part of Turkey by treaty in 1921. Pop. (1950) province, 409,138; town, 20,524.

KARSHI, kār'shī (Bek-Bum, 1925-1937), city, Soviet Union, capital of Kashka-Darya Oblast, in Uzbek Soviet Socialist Republic, on the Kashka-Darya River, 250 miles southwest of Tashkent. Industries are distilling, food processing, metalworking, and wool washing. Pop. (1932 est.) 20,400.

KARST, kārst (Ital. CARSO; Serbo-Croatian KRAS), a limestone plateau in the Dinaric Alps, northwestern Yugoslavia, characterized by caves and pits often of great extent, drained by underground streams. Karst topography designates similar regions in which the surface is marked by sink holes while drainage is chiefly underground through caves, the porous nature of the limestone allowing water to seep through and form underground streams.

KARTIKEYA, kār-tī-kā'yā, or SKANDA, the Hindu god of war to whom is attributed a miraculous birth without human medium or agency. According to the Sanskrit legends, the seed of the god Siva passed through fire

into the sacred waters of the Ganges. Six nymphs bathing in the water conceived and bore a son each. By some supernatural agency these children were united into one who retained six faces. This six-faced hero child became the leader of the embattled heavenly hosts; yet notwithstanding his warlike prowess and his military renown, he rides upon a peacock. A legend, evidently of more recent origin, credits him with being the son of Siva, the destroyer, and his wife, Parvati, the mountain-born.

KARUN, *kā-rōōn'*, the only navigable river of Iran, and important as a route to the interior. About 117 miles from the mouth navigation is impeded by the rapids of Ahwaz. Formerly the Karun flowed direct to the sea, but now it traverses an artificial channel leading it into the Shatt-al-Arab, which it joins at Khorramshahr. From the rapids a highway extends to the petroleum fields of the Anglo-Iranian Oil Company.

KARYOKINESIS, *kār-ī-ō-kī-nē'sis*, the process of development of the ovum under the influence of fertilization. See CELL; EMBRYOLOGY.

KASAI, *kā'sī*, a tributary of the Congo, which it enters from the south a short distance above Stanley Pool. It is navigable for hundreds of its total length of some 1,200 miles.

KASBEK. See KAZBEK.

KASHAN, *kā-shān'*, Iran, a city 150 miles south of Teheran, on the ancient caravan route between Kerman and Qum. Among its industries are the manufacture of woolen and silk goods, brass and other artisan work, jewelry, copper vessels and household articles. It is surrounded on three sides by picturesque mountains and is situated at an elevation of 3,190 feet. The district is noted for the quality of its figs and melons. Minerals mined in the vicinity include coal and cobalt. Pop. of Kashan and district (1940) 44,994.

KASHGAR. See SHUFU.

KASHMIR, or **JAMMU AND KASHMIR**, an Indian state north of the Punjab, bounded on the west by Afghanistan, on the north by the Sinkiang Province of China, and on the east by Tibet. Including feudatory territories, the area is 84,471 square miles, and the population (1941) 4,021,616. The upper Indus, with the Gilgit tributary, forms a valley stretching from the southeast to the northeast of the state. Northeast of this valley, and parallel to it, lie the Karakorum Mountains, whence flow the Shyok and the Hunza rivers. The Himalayas lie along the southeast of the state, and southwest of these mountains are the valleys of the Jhelum and Chenab. The Jhelum Valley is the famous "Vale of Kashmir," 80 miles long by 20 miles wide, overlooked by many peaks exceeding 28,000 feet in altitude. Srinagar (pop. 207,787), the capital of the state, lies along both banks of the Jhelum River. The Indus area of Kashmir is populated mainly by nomad shepherds, their trade centers being Ladakh, Baltistan, Gilgit, and Hunza. While the mineral resources of the state have not been fully surveyed, coal, limestone, gypsum, and iron have been found. The principal indus-

try of the people is agriculture; rice, buckwheat, millet, and barley are cultivated. Besides silk weaving, the fleece of the goat is spun for making the shawls for which Kashmir is famous. Carpets of high quality are also manufactured, and wood carving and silverwork are important industries. Prior to the partition of India, large quantities of Kashmir timber were floated down the rivers to supply ties for the Indian railways.

The withdrawal of British authority from India on Aug. 15, 1947 created a tense situation in Kashmir, where a Hindu dynasty ruled a predominantly Moslem population. Both "successor" governments—India and Pakistan—sought the "accession" of Kashmir. Into this already unstable situation came the aftermath of the widespread communal rioting in the Punjab all along Kashmir's southern boundary. Incidents of violence multiplied. Unable to cope with an incursion of Moslem tribesmen from the neighboring North-West Frontier Province in Pakistan, the maharaja of Kashmir "acceded" to India in late October 1947. The government of India thenceforth regarded the whole of Kashmir as legally within the Indian Union. Indian airborne troops turned back the tribesmen from the Vale of Kashmir. In the next few months, India brought much of central and northeastern Kashmir under the control of a government which acted in the name of the maharaja, but was really controlled by Sheikh Mahomed Abdullah who had led the struggle against the autocratic rule of the maharaja before and during World War II. Meanwhile an *Azad* (free) Kashmir government, supported by Pakistan and led by a lawyer from Poonch, Sardar Ibrahim, was asserting its authority in the western and northwestern portions of the state, which were not under Indian military control. This dispute was referred by India to the United Nations on Jan. 1, 1948. A "cease fire" agreement went into force on Jan. 1, 1949 but despite the effort of a United Nations commission, India and Pakistan could not immediately agree on a plan for a plebiscite whereby the wishes of the people concerning Kashmir's status might be ascertained.

KASHMIRI, *kāsh-mē'rē*, an Indo-European language, a dialect of the Indo-Aryan group of the Indo-Iranian subfamily. It is an ancient Sanskrit tongue of Kashmir (q.v.) which has, in the course of centuries, received the addition of many foreign words, principally from Persian and Arabic. Kashmiri is rich in folk tales and mythological lore, most of which have never been collected owing to the fact that the people were, for long, cut off from the art of writing. Most of the literature of the language, which is chiefly modern and of limited extent, is the work of foreigners, among the most prominent of whom are the foreign missionaries; the latter also translated parts of the Bible, hymns and other devotional literature into Kashmiri, through the aid of the Persian alphabet.

KASIMOV, *kā-sé'mōf*, Russia, a city of the Ryazan Region of the RSFSR, 250 miles east of Moscow, on the Oka River. The center of a flax-growing district, it contains spinning and weaving mills, and rope works. In the 15th century it was the chief residence of Kasim Khan, the Tatar leader, who is supposed to have built one of the picturesque mosques of the city. Pop. 12,979.

KASKASKIA, an American Indian tribe of the Algonquian family, formerly occupying a part of southern Illinois. In 1832, the survivors of the race, with the Peorias, removed to Kansas, and affiliated with the Weas and Pianishaws. The four tribes removed to Indian Territory in 1867, and in 1903 scarcely 100 members of the four tribes remained. See **INDIANS**, **AMERICAN**.

KASKASKIA, kās-kās'kī-ā, Ill., a township in Randolph County, on both sides of the Kaskaskia or Okaw River, at its junction with the Mississippi opposite Saint Genevieve, Mo.. A part of it now obliterated was the oldest town in the West, the first permanent white settlement in the Mississippi Valley. Jacques Marquette (q.v.), in 1675, had established a mission among the Kaskaskia Indians near the present Utica, Ill., on the Illinois River; the Jesuits, Marest and Saint Cosme, guided by Tonty (q.v.), removed the mission in 1700 to the Mississippi bottoms three miles from the river, near the Kaskaskia. It thrived greatly, and was not only a large Indian market, but sent produce and furs to New Orleans. Fort Chartres was built there in 1720; eminent French officers and adventurers came thither—as Pierre F. de R. Vaudreuil (q.v.)—and with its gay French life it was named "the Paris of the West." A noted Jesuit college and convent were maintained there. It formed one of the chain of posts by which France was to hem in English colonization; but in 1763 it fell into the hands of the English, who made it their capital in that region. On July 4, 1778 George Rogers Clark (q.v.), with a company of 200 Virginia militia, captured it for the United States by a night attack; this enabled us to claim and retain possession of the Northwest Territory by the peace of 1783, and changed the destiny of this whole region. It remained a leading western town and was the capital of Illinois as a territory (1809) and a state (1818); but on removal of the seat of government to Vandalia in 1819, began to decline. The river steadily encroached on the meadow; and in 1892 united its course with the Okaw, converting a large part of the old site, with most of the ancient buildings, into an island, which in 1899 crumbled into the river after several great floods. North of the junction still remains about a third of the town site, with the foundations of a church and of the capitol building. In 1891 the Illinois legislature appropriated \$50,000 to remove the old cemetery to a point on the bluffs, and a large monument was erected there.

KASKASKIA RIVER, rises in Champaign County, Ill., and flows southwest through Moultrie, Shelby, Clinton, Fayette and Saint Clair counties, finally joining the Mississippi in Randolph County. It formerly entered at Chester, but in 1891 the great river cut away the neck of land at Kaskaskia and joined it there. It is nearly 300 miles long, and navigable to Vandalia, 150 miles. It flows through a fertile rolling country which is part of the Illinois coal field.

KASSA, ká'sā, Magyar name for Kosice (q.v.).

KASSAI. See **KASAI**.

KASSALA, kā-sā'lā, Anglo-Egyptian Sudan, a town 250 miles east of Khartoum, near the frontier of Eritrea. It lies within a fertile re-

gion where cotton is grown on a considerable scale. Established as a military post by the Egyptians in 1840, it was lost by them in the Mahdi's uprising of 1885; recovered by the Italians in 1894, it was restored to Egyptian sovereignty three years later. Pop. 31,210.

KASSEL, or **CASSEL**, Germany, a city of Prussia, capital of Hessen-Nassau, on the Fulda River, 35 miles southwest of Göttingen, and 91 miles north-northeast of Frankfurt. It contains the former electoral palace, an indifferent structure; a handsome museum; the Bellevue palace, which contains a picture gallery; and the noteworthy Church of Saint Martin, having a nave of the 14th and a choir of the 15th century. Industries of Kassel include the manufacture of scientific instruments, metal goods, railroad cars and locomotives, gloves, and pianos. Founded in the time of the Romans, in 913, then known as Chassala, it was the capital of Conrad I. From 1806 to 1813 it was the capital of Westphalia; and after its occupation by Prussian troops in 1866 it became part of Prussia and capital of Hessen-Nassau. Pop. (1939) 217,085.

KASSIMOV. See **KASIMOV**.

KASSITES, an ancient dynastic family of Babylonia who ruled it from about 1761 to 1185 B.C. They were probably the same people as the Cossaeans. The first king of the Kassites was Gandash (1761-45 B.C.), and the list of his successors, with the dates of their kingships, has been ascertained with fair accuracy. In all there were 36 kings, who ruled over Babylon almost 577 years. The records so far recovered and deciphered show, in a fragmentary manner, yet in a most interesting way, many of the activities of this ancient line of Babylonian kings, who played the several parts in many of the historic events of their day which are known to us through the records of other countries. In the 8th century B.C. we find one of their sovereigns making an offensive and defensive treaty with Assyria. According to an account preserved, the daughter of the Assyrian king, Asuruballit I, became the wife of the Kassite ruler Burnaburiash (1381-56), who was on friendly relations with Amenhotep IV (1375-50) of Egypt and with other foreign potentates; with one, at least, of the latter he formed a treaty of friendship. Others of Kassite sovereigns are shown as carrying on wars against neighboring sovereigns; punishing traitors; placing their sons on foreign thrones; and marrying their daughters to friendly potentates, thus strengthening their foreign relations.

KASSON, John Adam, American lawyer and diplomat: b. Charlotte, Vt., Jan. 11, 1822; d. Washington, D.C., May 18, 1910. He was graduated from the University of Vermont in 1842, studied law, was admitted to the bar, and in 1857 moved to Iowa and continued his law practice. He became active in the Republican Party, was a delegate to the national convention in 1860 and chairman of the state committee in the campaign; was assistant postmaster general in 1861-62; and commissioner to the International Postal Congress at Paris in 1863. He was elected to Congress in 1863 and served until 1867; in the next year was elected to the Iowa state legislature, and from 1873 to

1877 was again a member of Congress. From 1877 to 1881 he served as United States minister to Austria-Hungary, and in 1884, after another three years in Congress, he was appointed minister to Germany. During 1885 he represented his country at the Berlin Conference on international interests in the Congo basin of Africa, and he returned to Berlin in 1889 as special envoy of the United States at the conference to settle the status of Samoa. In 1898 he was a member of the Joint High Commission which settled differences between the United States and Canada. His works included *A History of the Formation of the United States Constitution* (1889) and *Information Respecting Reciprocity and the Existing Treaties* (1901).

KASTAMONU, kās-tā-mō-nōō', or **KASTAMUNI**, -mōō-nē, town, Turkey, capital of the province of the same name, near the Gök River, 110 miles north-northeast of Ankara. The town is noted for its manufacture of copper utensils, and also produces textiles, arsenic, hemp, and mohair. Grain, rice, hemp, and apples are cultivated in the province, which is also densely forested and has deposits of coal, lignite, mercury, copper, chromium, and arsenic. Pop. (1950) province, 411,576; town, 13,688.

KASTEL-POMO, one of the three divisions of the Kato (q.v.) Indians.

KASTELORRIZON, kās-tā-lō'rē-zōn (also KASTELLORIZO or CASTELLORIZO; Ital. CASTELROSSO; ancient MEGISTE), island, Mediterranean Sea, the easternmost of the Dodecanese group, located two miles off the southwest coast of Turkey in Asia. It covers an area of four square miles. Occupied by the French during World War I, it subsequently belonged to Italy and, after World War II, passed to Greece. Its chief products are sponges, olive oil, and wine. Pop. (1947) 663.

KASTNER, kēs't'nēr, **Abraham Gotthelf**, German mathematician and poet: b. Leipzig, Germany, Sept. 27, 1719; d. Göttingen, June 20, 1800. Appointed professor of mathematics at the University of Göttingen in 1756, Kastner exerted a powerful influence there in delivering the mathematical and natural sciences from the bondage of antiquated textbooks. His most important mathematical writings were *Anfangsgründe der Arithmetik* . . . , 4 vols. in 10 (1790-1801) and *Geschichte der Mathematik*, 4 vols. (1796-1800).

Kästner took part in the formation of the celebrated union of Göttingen poets. He also assisted Heinrich Christian Boie (1744-1806) in introducing a younger generation of German poets through the latter's publication, *Musenalmannach*, which first appeared in 1770. His own epigrammatic verse was published in *Vermischte Schriften*, 2 vols. (1755), *Sinngedichte* (1781), and elsewhere.

KASTNER, kēs't'nēr, **Erich**, German poet and novelist: b. Dresden, Germany, Feb. 23, 1899. Kästner is best known for his novel *Emil und die Detektive* (1929), translated into English in 1930, and many times dramatized and filmed. His other works which reveal varying degrees of humor, satire, and idealism, include the verses *Herz auf Taille* (1928); *Lärm im Spiegel* (1929); *Lyrische Hausapotheke* (1936); *Bei der Durchsicht meiner Bücher* (1947); and the novels *Fabian*; die

Geschichte eines Moralisten (1931); *Das Fliegende Klassenzimmer* (1933); *Drei Männer im Schnee* (1934); and *Die Verschwundene Miniatur* (1936).

KASTNER, käst'nēr, **Johann Georg**, Alsatian composer and music theorist: b. Strasbourg, France, March 9, 1810; d. Paris, Dec. 19, 1867. Kastner was educated at the Strasbourg Lutheran Seminary, but in 1832, after two years' experience as a bandmaster, he gave up theology for music. Between 1832 and 1835 he composed four operas. In the latter year he went to Paris, where he completed his musical training under Henri-Montan Berton and Anton Reicha, and where he lived for the rest of his life. His *Traité général d'instrumentation* (1837) was used by the Conservatoire until superseded by the treatise of Hector Berlioz on that subject. In Paris, he introduced international band competitions, the first being held at the Paris Exposition in 1867. Besides operas, symphonies, overtures, marches, and miscellaneous pieces, his works include numerous theoretical treatises, periodical articles, collections of music with explanatory essays, and an unfinished *Encyclopédie de la Musique*.

His son, **GEORG FRIEDRICH EUGEN KASTNER** (1852-1882) was a physicist; he invented the pyrophone (q.v.) about 1875, and wrote on the theory of vibration and oscillation.

KASTORIA, kās-tō-rē'a (ancient CELETRUM), commune, Greece, capital of the Macedonian department of the same name, 19 miles south-southwest of Philorina (Florina). It is situated on the western shore of Lake Kastoria, which covers an area of 20 square miles. Pop. (1951) 9,468.

KASTRON, kās'trōn, or **KASTRO** (formerly LEMNOS; in ancient times, MYRINA), seaport, Greece, on the west coast of Lemnos Island in the Aegean Sea. It has an excellent harbor and is the center of trade for the entire island, of which it is the capital. Pop. (1951) 3,493.

KASTRON, or **KASTRO**, the former name of the chief towns on two islands in the Aegean Sea: Chios on the island of Chios and Mytilene on the island of Lesbos. The former, whose population in 1951 was 24,361, trades in wine, leather, and fruit; the latter, whose 1951 population was 25,518, trades in olive oil, citrus fruits, grain, hides, and sponges, and is the seat of a Greek metropolitan.

KATABOLISM. See ANATOMY, COMPARATIVE; METABOLISM.

KATAHDIN, kà-tā'd'n, mountain, Maine situated in Piscataquis County in the central part of the state. The region is difficult of access: the Penobscot River is the only thoroughfare and its course is interrupted by frequent shoals and falls. The mountain, which is the highest in the state, has an altitude of 5,268 feet. Entirely of granite, it has acres of surface exposed in naked floors. Its sides are marked by bare spots caused by sliding rock. On its summit are only lichens and a few dwarfish plants; halfway down, the birch and other forest trees are stunted. Over the granite rocks, even to the summit, are found boulders of trap and other rocks not belonging to the mountain, and among them

pieces of sandstone containing fossil shells. The view of the country from the summit embraces scattered mountains rising in conical granite peaks, among which are interspersed hundreds of lakes, many of them large, and innumerable streams. In 1931 Katahdin and surrounding area became a state park.

KATAKIUCHI, kă'tă-kē-oo'chē (Japanese, "killing one's enemy"), a very old vendetta popular in Japan. Custom prescribed the slaying, without process of law, of any one who had murdered one's lord, father, or very near relative. The law came to frown on this practice but custom proved itself more powerful than the might of the properly constituted authorities. To such an extent did this popular method of righting personal injuries prevail that one who failed to perform his part in the scheme of vengeance became thereby ostracized from the society of his class. The law prescribed capital punishment for any one taking vengeance in his own hands in the exercise of katakiuchi; and through the continual pressure of the authorities, exercised over a considerable space of time, this old custom has been completely abolished from the country.

KATAMORPHISM. See METAMORPH-

KATANGA, kă-tāng'gá, Belgian Congo, a highland district of Elisabethville Province, in the southeastern part of the country, bordering on Northern Rhodesia. It is drained by the Lualaba and other tributaries of the Congo. The district is rich in copper, radium, and other mineral deposits.

KATE, kă'tē, Jan Jacob Lodewijk Ten, Dutch clergyman and poet: b. The Hague, 1819; d. 1889. He studied theology at Utrecht and entered the Reformed Church ministry, and was actively engaged in ministerial duties until his death. Among his charges was a church in Amsterdam, to which he went in 1860. He devoted his spare time to literature, and has left many original poems, principally of a religious turn, which are still popular in the Netherlands and Flanders. Ten Kate had the gift of satirical poetry, which he displayed in his writings in the *Braga*, which he and Prius published and wrote during 1842-1843. He was an extensive translator from Hebrew, Luther, Chassigno, Schiller, Goethe, Tegner, Andersen, Hugo, Tasso, Dante, Oehlenschläger, Byron, and Milton. In turn, many of his own most popular poems have been translated into French, German, and other foreign languages. Among his best known works are *De Schepping* (1866); *De Planeten* (1869); *De Jaargetijden* (1871); *Palmbleden en dichtbloemen* (1884). Several editions of his works have appeared, the best and most complete being that published in Leiden in 12 volumes (1890-1891).

KATER, Henry, English physicist: b. Bristol, April 16, 1777; d. London, April 26, 1835. He entered the British Army in 1794 as an ensign, and from 1799 until 1814 he served in India, rendering important services in the great trigonometrical survey. Retiring on half pay in 1814, he devoted himself henceforth to scientific research. The Russian government employed

him to construct standards for the weights and measures used in Russia. He invented a pendulum (subsequently named for him) for determining the length of the seconds pendulum, employing a principle developed by Christian Huygens (q.v.) in which the centers of oscillation and suspension were interchanged. Among other researches, he investigated the diminution of terrestrial gravity from the pole to the equator; and he made a great contribution to practical astronomy by inventing the floating collimator.

KATHIAWAR, kă-tē-ā-wār', India, a peninsula on the west coast, bounded on the northwest by the Gulf of Cutch and on the southeast by the Gulf of Cambay. The area is 23,432 square miles, and the population numbers some 3,000,000 persons. Bhavanagar, on the Gulf of Cambay, is the principal seaport, and other towns include Jamnagar, Rajkot, Porbandar, Mangrol, and Junagadh. Diu, an island at the extreme south of the peninsula, is a Portuguese possession. The principal economic crop of Kathiawar is cotton, which is cultivated on a large scale.

KATHLEEN MAVOURNEEN, kăth'lēn mā-vōor'nēn, a famous Irish song, written by Mrs. Louisa (Macartney) Crawford (1790-1858). The words have sometimes been ascribed to Mrs. Julia Crawford or to Mrs. Anne B. Crawford. The music for the song was composed by an Englishman, Frederick Nicholls Crouch (q.v.), who first sang it at a concert in Plymouth, England, about 1832. He received five guineas for the song; in 1866 the plates were sold at auction for £532. Crouch also composed the music for *Kathleen Avourneen*, the words of which were written about 1844 by Desmond Ryan.

KATIPO, kă'tē-pō, a word of Maori origin commonly applied in New Zealand to most poisonous spiders of the genus *Latrodectus* (q.v.). The spiders, which are black and have a red abdominal band, are also found in Australia and the islands of the East Indies.

KATIPUNAN, kă-tē-pōō'nān, a word of Tagalog origin (meaning association) given to a secret society organized in the Philippine Islands late in the 19th century with the object of overthrowing the Spanish administration and the expulsion of all foreigners from the archipelago. The organization of the society was purely military, a chief or colonel being assigned to each 100 members. Each member signed an oath written in his own blood, swearing under most revolting penalties to serve and obey the leaders of the society. After the Spaniards discovered a conspiracy in 1895-1896, some 300 of the Katipuneros were arrested. Thereafter the society was openly opposed to the Spanish officials, and when Emilio Aguinaldo (q.v.) took command of the Filipinos in rebellion against Spain he placed all males under the direction of the Katipunan. The society took a prominent part in the insurrection against the United States in 1899-1901, but subsequently passed out of existence.

KATKOV, kūt-kōf', Mikhail Nikiforovich: Russian journalist: b. Moscow, 1818;

d. 1887. Educated at Moscow, Königsberg and Berlin, he became a teacher of philosophy in Moscow in 1845, and in 1851 he was appointed editor of the *Moscow Intelligencer*. He had already become much more conservative than in his youth when he sympathized with liberalism and revolutionary doctrines. He attacked the Nihilists bitterly through his paper, accusing them of being the fountainhead of all the political troubles that had flooded over Russia. Gradually he became one of the strongest supporters of absolutism while, at the same time he criticized the government for failing to use the iron hand in putting down insurrection and uprooting treason. He became the personal adviser of Alexander III, and was accused of simply echoing the sentiments of his sovereign. But this criticism was unjust for Katkov does not seem to have always sided with the emperor. The proof of this is that his name became known internationally and his reputation and influence were worldwide.

KATMAI, kät'mī, Alaska, a volcano of the Alaskan peninsula, situated long. 155° 30' W., lat. 58° N. on Shelikof Strait almost opposite Karluk, on Kodiak Island. Its altitude is 7,500 feet, and until its outbreak June 6, 1912, it was supposed to be extinct. The main crater is one of the greatest in the world, being three miles across, with the rim some 3,700 feet above the floor of the crater. Part of the crater wall is composed of igneous rock of brilliant color. When the top of the volcano was blown off in 1912, Kodiak Island, across Shelikof Strait, and distant 100 miles, was covered with a foot of volcanic ash, while in Alaska, most of which was showered, darkness lasted for 60 hours. Under the auspices of the National Geographic Society, Robert Fiske Griggs headed an expedition to Katmai in 1916. Where the former Katmai pass had been, he discovered what was named "The Valley of Ten Thousand Smokes," a region where gases and steam issued from innumerable vents in the earth. In 1918, on the authority of President Wilson, the volcano and The Valley of Ten Thousand Smokes was set aside as a national monument; with changes made in 1931, the area was 2,697,590 acres (4,215 square miles). Consult Griggs, Robert F., *Scientific Results of the Katmai Expeditions* (1920) and *The Valley of Ten Thousand Smokes* (1927); Hubbard, Bernard F., *Mush, You Malemutes!* (1932).

KATMANDU, kät-män-dōō, India, capital of the state of Nepal, at the confluence of the Baghmati and Bishanmati rivers, and 75 miles north of the frontier of British India. A feature of the city is the large number of temples. Katmandu contains the residences of the sovereign and the British minister. Pop. 119,686.

KATO, kă-tō, Takaakira, Viscount, Japanese statesman: b. Nagoya, Jan. 3, 1859; d. Tokio, Jan. 28, 1926. He was educated at the University of Tokyo, and in 1888, after commercial experience, he became secretary to the minister of foreign affairs. From 1891 until 1894 he was director of the taxation bureau of the finance department, and for the next five years he was minister to Great Britain. During 1900-01, and again in 1906, he was minister of foreign affairs, resigning his second term of office when the cabinet approved the policy of nationalizing

the railroads, a measure to which he was strongly opposed. In 1908 he returned to Britain as ambassador, the status to which the diplomatic post had now been raised, and continued in that capacity until 1913. During January-February 1913 he was again foreign minister. Opposed to many features of modernization of the country in 1913 he reorganized the Doshikai (late known as the Kenseikai, or Constitutionalist Party). In 1914-15 he was once more foreign minister, and in 1916 he was created viscount. He was called upon in 1924 to form a coalition cabinet; the following year he reorganized his cabinet, constituting it exclusively of members of the Kenseikai Party, and he continued as prime minister until his death.

KATO, Tomosaburo, Japanese naval officer: b. Hiroshima, 1859; d. Aug. 24, 1923. Entering the naval service he became professor at the Japanese Naval Academy with the rank of captain in 1899, and three years later he was appointed chief staff officer of the stationary squadron. The Russo-Japanese War found him chief of staff of the squadron of Hikonoyama Kamimura (q.v.); a position in which he showed marked administrative ability, and which secured him the appointment of bureau head when the war had ended. At the age of 49 he was vice admiral and a year later commander of the Kuré admiralty. In 1914 he was in command of the Japanese fleet which fought the Germans at Tsingtao and forced them to surrender the city after a four months' struggle. As minister of the navy after the First World War, he planned a considerable increase in naval strength, though at the Washington Naval Conference in 1921-22, at which he headed the Japanese delegation, he agreed not to outbuild the fleets of the United States and Great Britain. During 1922-23 he served as prime minister.

KATO, a Kuneste tribe of American Indians, belonging to the great Athapaskan family, which, at one time, lived in Cahto and Long valleys, in Mendocino County, Calif. According to Powers, the Kato consisted of the Kai-Pomo, Kastel-Pomo and the Kato-Pomo. They resemble the Pomo in culture but belong linguistically to the Athapascans, and are closely related to the Wailaki.

KATOWICE, kă-tō-vě'tsě, or **KATTO-WITZ**, Poland, a city on the Rawa River, five miles southeast of Beuthen. It lies within a large area of the Silesian coal fields; and has important manufactures of metal goods, creosote, paving blocks, furniture, and household fittings. Katowice passed from German to Polish sovereignty in 1921. During the Second World War it was temporarily reoccupied by the Germans. Pop. (1939 est.) 134,900.

KATRINE, kät'rīn, Loch, Scotland, a lake in Perthshire. Sir Walter Scott (q.v.) has sung its beauties in the *Lady of the Lake* and others of his works, and William Wordsworth (q.v.), too, has presented its attractions. The grandeur of the Trossachs, Ben A'an and Ben Venue are vividly presented in the opening canto of the *Lady of the Lake* and in following cantos. Loch Katrine is a comparatively small lake, being only about nine miles long and less than a mile wide on an average, though it stretches out to greater width in places. It drains into Loch Achray.

In the lake is the famous Ellen's Island, home of the exiles, in the *Lady of the Lake* whom James of Scotland visited in the guise of a lost hunter, without revealing his real name and rank. The celebrated mountains surrounding the lake are comparatively low when considered from their actual elevation above the level of the sea, Ben Venue, the highest, being only 2,393 feet. But as they rise from a low level they present jointly and severally a majestic appearance. Owing to its great natural beauty and its many romantic, traditional, historical and literary interests, Loch Katrine and the surrounding region are annually visited by many tourists and students. Modern steamers now take care of this tourist trade on the lake. In 1885 the waters of Loch Katrine were raised five feet by artificial means and its capacity is a great natural reservoir increased in order to make it furnish a greater supply of potable water to the city of Glasgow which, as far back as 1859, had made use of the lake for this purpose. This greatly reduced the dimensions of Ellen's Isle and covered up the "Silver Strand," made famous in the *Lady of the Lake*. The water from Loch Katrine is carried over a distance of 25 miles in reaching Glasgow. The lake lies at an altitude of 365 feet above sea-level; but as its maximum depth is 500 feet, a part of it is 135 feet below sea-level. Consult Scott's *Lady of the Lake* and *Rob Roy* for descriptions of Loch Katrine and surrounding country.

KATSENA, kât'sě-nă, the former capital of the Hausa territories, situated in the north of Kano, British Nigeria, Africa. It has been under British rule since 1903. It was at one time the most important city of the very extensive district in which it is situated; but tribal wars, which began over 100 years ago, largely repopulated it and left the greater part of it in ruins. Its present population is about 10,000 which is about one-tenth of that which it possessed at the height of its prosperity.

KATSU AWA, kätz' äh'wä, Japanese statesman: b. 1823; d. 1900. A disciple of Yokoi Shōmei and ardent adherent of the Oyomēi philosophy, which taught that all knowledge was useless unless expressed in action, and which fought ever for constructive change, as against the hardened conservatism that becomes dry rot, Katsu went to Nagasaki. From the Dutch officers sent out by the king of Holland in the early 50's, he, with others, who later became famous, learned about steam machinery and built the first Japanese warship on a foreign model. In 1859 Katsu navigated this, the first man-going Japanese steamship, the *Kanda Maru*, across the Pacific in 37 days. When in 1854 Tsushima was seized and occupied by the Russians, Katsu called in the aid of the British and had them expelled. In 1868, during the civil war in Japan, by reasoning with his former fellow-student, General Saigō of the imperial forces, he saved Yedo from attack and war torch. He laid the foundation of Japan's modern navy with purchased Dutch and American warships. He was several times member of the Cabinet. He brought American teachers Shidzuoka and sent his son to study at New Brunswick, N.J., and in the United States Naval Academy at Annapolis, and other young men to America, and assisted in the formation

of the first Commercial College in Tokio. Posthumous honors were awarded and his family ennobled. Consult Griffis, *The Rutgers Graduates in Japan* (1916), and Clark, *Katsu Awa: The Bismarck of Japan* (1904).

KATSUO, kât'soo-ō', the general name in Japan for tunnies, which are extensively fished and dried. In this latter shape they form a very important part of Japanese commerce amounting annually to over 5,000,000 catties (a catty is 1½ pounds).

KATSURA, kâts-wě'ä, Taro, PRINCE, Japanese soldier and statesman: b. Choshu, 1847; d. 1913. He received a military training in Prussia, entered the Japanese army in 1867, fought in the war of the Mikado's restoration, was vice-minister of the army in 1886-91, and in the Chino-Japanese War (1894-95) commanded the 3d division, with which March 4, 1895 he captured New-chwang. For his services he was made viscount. In 1896 he was governor-general of Formosa, in 1898-1900 Minister of War, from 1901-06 was Prime Minister. In the latter year the general dissatisfaction over the Peace of Portsmouth forced his resignation. In 1908-11 he was again Prime Minister and Minister of Finance, and for the third time from December 1912 to February 1913. His services in forming the alliance with England brought him the title of count, and in 1905 he became marquis. He was made prince in 1911 after the annexation of Chosen. In 1912 he founded the political party called Rikkendoshikai.

KATTE, kät, Edwin Britton, American electrical engineer, son of Walter Katte (q.v.): b. Saint Louis, Mo., 1871. Graduated from Cornell University he took up electrical engineering and became assistant engineer to the Park Avenue Improvement Commission, New York (1897-98). He then joined the engineering department of the New York Central and Hudson River Railway where he finally became chief engineer of the electrical traction systems in 1906. He died July 19, 1928.

KATTE, kät'tě, Hans Hermann von, an historically notable friend of Frederick the Great: b. 1704; d. 1730. He was very much attached to the young crown prince who had incurred the ill will of his father. Frederick ordered Katte to sever all relations with the crown prince; but he disobeyed this command, and plotted to liberate the heir to the throne. This attempt was discovered and Katte was condemned to death and executed for his part in it.

KATTE, Walter, American civil engineer: b. London, England, Nov. 14, 1830; d. March 5, 1917. Coming to the United States in 1850 he was resident engineer of the Pennsylvania State canals 1857-58, and subsequently held various engineering posts of responsibility. In 1861-62 he served the Federal government as military railway engineer. From 1865 to 1875 he was in the employ of the Keystone Bridge Company of Pittsburgh, superintending at this time the building of the steel arch bridge at Saint Louis. He was chief engineer of the New York Elevated Railroad 1877-80, and from 1880 to 1899, when he retired, held similar posts on other important railroads, including the New York Central.

KATTEGAT, kăt'ê-găt, a wide arm of the North Sea, with which it is connected by the Skagerrak on the north. It is 150 miles in length, and 88 miles broad at its widest point; the area is 9,840 square miles. It lies between the east coast of Jutland (Denmark) and the west coast of Sweden; and it connects with the Baltic Sea by the passages known as Little Belt, Store Belt, and Oresund. The Kattegat, which is shallow near its shores, with shoals and sandbanks, is difficult of navigation.

KATTIMUNDOO, or **CATTIMUNDOO**, a semielastic semiresinous substance obtained from the gum of the *Euphorbia trigonia*, a plant which grows extensively in India. The name itself is a native Indian term. As the elastic resinous gum becomes older it becomes harder and more brittle and loses practically all of its elasticity.

KATTOWITZ. See **KATOWICE**.

KATUN, kà-toon, a cycle of years employed by the Mayas in computing time. The exact length of a katun has not been exactly and definitely settled. Some authorities claim that it consisted of 20 years while others assert that it covered, like the ancient Mexican calendar, 52 years. On the other hand, the word *kate*, among the Mosquito Indians of Central America, signifies the 28 days of the lunar month. Others of the Central American tribes follow the Mexican system of 18 months of 20 days and a cycle of 52 years. Most authorities, however, claim that the katun contained only 20 years. Pio Pérez, a noted Mexican scholar and the discoverer of an important manuscript detailing the ancient chronology of Yucatan, was of the opinion that the katun consisted of 24 years.

KATYAYANA, kăt-yä'yä-nä, the name of several noted Hindu personages, among them some of the chief disciples of Buddha. One person of this name was a critic of great celebrity in India, chiefly on account of his criticisms of the work of Panini (q.v.), the famous native grammarian and writer. The name Kätâyâna is signed to various important works on the White Yajur-Veda. The grammarian of this name lived probably about the 3d century of the present era; and so important was his work that he is still regarded as one of the chief authorities of the Hindu language of the Vedics and of the tongue of the Deccan.

KATYDIDS, large neuropterous insects of the grasshopper family *Locustidae*, remarkable for their loud and shrill call. The katydids belong to several allied genera which have the head obtuse in front, the wings and wing covers large and leaf-like, and the color bright green. Highly developed stridulating organs are found in the males in the form of transparent drum-like structures at the base of the wing covers, by the friction of which, one against the other, as the wings are raised and lowered, the well-known call is produced. This is heard only at night (though some species have quite different day calls as well) and is so loud and shrill as to be distinctly audible at a distance of a quarter of a mile. The call of the males is answered by chirps from the females. The characteristic eggs are gummed to twigs in two contiguous over-lapping rows. Katydids are peculiarly American. The common species is

Cystophyllus concavus, known by its very broad coarse-veined wing covers and long ovipositor. In *Phylloptera oblongifolia* the wing covers are narrower and the veins finer. Other related genera are *Phaneroptera* and *Microcentrum*.

Their chirping note, supposed to resemble the words "Katy did," inspired the well known lines *To an Insect* by Oliver Wendell Holmes (q.v.):

I love to hear thine earnest voice,
Wherever thou art hid,
Thou testy little dogmatist,
Thou pretty Katydid.

KATZBACH (käs'täh) **RIVER**, a small stream in Silesia, Prussia, falling into the Oder at Parchwitz. On its bank, Aug. 26, 1813, a battle was fought between the French and the Prussians in which the latter under Gebhard L. von Blücher (q.v.) won a signal victory. The French lost 12,000, and 18,000 were taken prisoners.

KAUAI, kou-ä'ê, fourth largest of the Hawaiian Islands, the most northern of the group, in lat. 22° N. and long. 159° 30' W.; area, 547 square miles. It is of volcanic origin, its highest elevation, Mount Waialeale, reaching 5,080 feet; but although mountainous in character, the island has a soil of great fertility, a considerable portion of which, mainly in the northern part, is under cultivation. Sugar is the chief product, and tropical fruits are also largely grown. There is great extent of forest land, and the island is well supplied with streams, the largest of which is Hanalei. Lihue is the county seat. The principal harbors are Hanalei, Koloa, Nawiliwili and Waimea; the last, which was the old capital, was the first place in the Hawaiian Islands to be visited by Capt. James Cook (q.v.). Pop. (1940) 33,479; Niihau Island, (1940) 72. See HAWAIIAN ISLANDS.

KAUFFMAN, kouf'män, **Calvin Henry**, American botanist and mycologist: b. Lebanon, Pa., March 10, 1869; d. Ann Arbor, Mich., June 14, 1931. He graduated at Harvard in 1896, and for four years taught in secondary schools, after which he resumed his studies, first at the University of Wisconsin and then at Cornell University. In 1906 he secured his Ph.D. at the University of Michigan, where, two years earlier, he had become an instructor in botany. He was made assistant professor of botany in 1908, and associate professor in 1920, and from 1923 until his death he was full professor and director of the university herbarium. During the First World War he was on leave of absence to serve in the horticultural division of the U.S. Department of Agriculture. His research work on mushrooms, continued through many years, was of particular value. He published numerous articles in botanical journals, and in 1918 published the two-volume *Agaricaceae of Michigan*.

KAUFFMANN, kouf'män, **Marie Angélique Catherine**, commonly known as **ANGELICA KAUFFMANN**, Swiss painter: b. Coire, Switzerland, Oct. 20, 1741; d. Rome, Nov. 5, 1807. She was the pupil of her father, John Joseph Kauffmann, a painter of little note. Her first work of importance was a portrait of the Duke of Modena and his duchess. She then collaborated with her father in the decoration of the parish church and castle of Schwarzenburg, his birthplace, painting many portraits in the meantime. Going to Florence, she was

hindered in her artistic career by her passionate devotion to music and singing, but in 1763 finally abandoned all other pursuits for that of painting. She fell under the influence of Winckelmann at Rome, and produced the 'Mother of the Gracchi.' She also did some work in co-operation with the Venetian landscape painter Zucchi, whom she subsequently married. It was at this point in her life that she developed the particular sentimental style of her paintings as seen in 'Anna and Abra'; and 'Samma at the Grave of Bennoni,' which created a furore. In London (1765) she became a favorite with court and aristocracy, and acquired great wealth and honor; she was made member of the Royal Academy and was thought to have inspired Sir Joshua Reynolds with tender feelings. She was, however, unfortunate in marrying a Swede who called himself Count Horn, from whom she was later divorced. She eventually married Zucchi and settled in Rome (1781), where her house became a rendezvous for scholars and artists, the most famous of whom was Goethe, who has left us a remarkable characterization of her art. While her tenderness borders on mawkishness and her designs are monotonous, her imaginative figures have an elevated charm which as not without its influence in circles where George Morland was typical of English art. Her personality cast a reflection which enhanced the impression which her pictures made on her contemporaries, and the 'Miss Angel'.

Mrs Thackeray Ritchie exhibits with tact and fidelity this interpretation of her somewhat remarkable career. Other works by her are 'Psyche Drying Cupid's Tears'; 'Death of Leonardo da Vinci' (1781); 'Servius Tullius as a Child' (1784); 'Abelard and Héloïse'; 'Hermitage, St. Petersburg'; 'The Vestal Virgin' (Dresden Gallery); 'Christ and the Woman of Samaria'; 'Virtue, Prudence andolly' (Philadelphia, Pa.). There are over 200 of her original drawings in the British Museum. The best of her portraits are those of Mengs and Lady Hamilton in Kensington Museum, and of herself in the Berlin Museum, the National Gallery, London, and the Munich and Uffizi galleries. Consult De Rossi, 'Vita di Angelica Kauffmann' (Florence 1810); Bohme, 'Kunst und Künstler' (Leipzig 1817); Engels, 'Angelika Kauffmann' (Bielefeld 1892); Gerard, 'Angelica Kauffmann' (London 1893); Schram, 'Die Malerin Angelika Kauffmann' (Brünn 1890), and 'Angelica Kauffmann,' in *Illustrierte Zeitung* (Leipzig, June 1903).

KAUFFMAN, Reginald Wright, American author: b. Columbia, Pa., 1877. Educated at Harvard University, he joined the *Philadelphia Press*, and finally became associate editor of the *Saturday Evening Post* (1904-07). He held the same position on the *Delineator*, was dramatic critic on the *North American* (Philadelphia) and managing editor of *Hampton's Magazine* (1909). He was United States representative to the first International Congress for Woman's Suffrage held in London in 1912, and member of the Criminal Law Amendment Commission of Great Britain (1912-13). He was in Europe, especially in Belgium, during the first year of the European War, and was active in war work to 1919. Contributor of poems, essays and stories to newspapers,

journals and magazines, he has also written numerous photoplays and compiled and edited the books of 'Love,' 'Gratitude,' 'Friendship' and 'Good Cheer.' Among his original works are 'Jarvis of Harvard' (1901); 'The Things that are Caesar's' (1902); 'The Chasm' (1903); 'Miss Frances Baird, Detective' (1906); the dramatization of the latter (with the help of Channing Pollock, 1907); 'What is Socialism' (1910); 'The House of Bondage' (1910); 'The Girl that Goes Wrong' (1911); 'The Way of Peace' (1911); 'The Sentence of Silence' (1912); 'The Latter-Day Saints' (with Ruth Kauffman, 1913); 'The Spider's Web' (1913); 'Little Old Belgium' (1914); 'The Silver Spoon' (1915); 'The Mark of the Beast' (1916); 'The Ancient Quest' (poems, 1917); 'Money to Burn' (1924); 'Spanish Dollars' (1925); 'Seventy-six' (1926); 'A Man of Little Faith' (1926); 'Overland Trail' (1927); 'Pirate Jean' (1929).

KAUFMAN, David S., American politician: b. Cumberland County, Pa., 1813; d. Washington, D. C., 13 Jan. 1851. A graduate of Princeton University, he removed to Natchez, Miss., where he studied law. In 1837 he settled in Nacogdoches, Tex., and the next year was elected to the Texas Congress. He was twice re-elected and twice chosen speaker of the House. In 1843 he entered the Texan Senate, taking an active part in favor of annexation, and being elected one of the first members of the House of Representatives from Texas (1846-51).

KAUFMANN, Alexander, German poet: b. Bonn, 1817; d. 1893. After studying law in Bonn and Berlin he turned to literature, and some time later became archivist to the Prince of Löwenstein (Wertheim) which allowed him time and opportunity to follow his investigations into historical subjects and more especially the history and customs of the Middle Ages. Notwithstanding his love of history he was a poet of some power, freshness and originality. It is probable that his poetic bent was encouraged by his marriage to Mathilde Binder ("Amara George"), the Nuremberg poet, who worked continuously with him. His published works include 'Cäsarius von Heisterbach' (1852); 'Gedichte' (1852); 'Mainsagen' (1853); 'Unter den Reben' (1872); 'Mythotherapie' (with his wife, 1858).

KAUFMANN, Carl Maria, German archaeologist: b. Frankfort-on-the-Main, Germany, 2 March 1872. He was educated at Berlin and the University of Fribourg, Switzerland, and subsequently studied archaeology at Rome. In 1899 he was ordained to the Catholic priesthood. From 1905 to 1908 as member of the Frankfort Expedition he was engaged in archaeological explorations in the Libyan Desert. He discovered, in company with Ewald Falls, the old Christian city of Menas, a celebrated place of pilgrimage in early Christian days. He is the author of 'Die Jenseitshoffnungen der Griechen und Römer nach den Sepulkralinschriften' (1897); 'Die Legende der Aberkiosstele im Lichte urchristlicher Eschatologie' (1897); 'Der Letzte Flavier' (a novel, 1897); 'Das Dokument der Lady' (a novel, 1899, 1909); 'Die sepulkralen Jenseitsdenkmäler der Antike und des Urchristentums' (1900); 'Die Wunder der Kirche der Kata-

komben und Martyrer (a novel, 1900); *Sant Elia, Erinnerungen an eine archaeologische Streife in Etrurien* (1901); *Das Kaisergrab in den Vatikanischen Grotten* (1901); *Die Grotten des Vatikan* (1902); *Ein altchristliches Pompeji in der Libyschen Wüste* (1902); *Handbuch der christlichen Archaeologie* (1905); *Die Ausgrabung der Minasheiligtümer in der Marcotiswüste*, 3 vols. (1906–1908); *Manuale di archeologia cristiana* (1908); *La découverte des sanctuaires de Ménas dans le désert de Maréotis* (1908); *Der Menastempel und die Heiligtümer von Karim Abu Mina in der ägyptischen Mariüt-wüste* (1909); *Zur Ikonographie der Menasampullen* (1910); *Die Menasstadt und das Nationalheiligtum der altchristlichen Aegypter* (vol. 1, 1910), and contributions to periodicals. His fiction appears under the *nom-de-plume* of Marchese di San Callisto.

KAUFMANN, kauf'mün, Konstantin Petrovich, Russian general: b. near Ivangorod (now Deblin), Poland, May 3, 1818; d. Tashkend, USSR, May 16, 1882. Serving as engineer and soldier he became eventually attached to the War Department, where he was largely instrumental in the reorganization of the Russian army. His talent for organization won him the appointment of commander of the military division of Vilna and governor general of northwestern Russia (1865), and of Turkestan (1867). The latter division, which had just been organized, permitted him again to show his talent for organization which enabled him to very much extend Russian influence throughout central Asia. He defeated Bokhara, conquered Samarkand, overcame the Khan of Kiva and generally extended Russian power.

KAUFMANN, Nicolaus, German mathematician and engineer: b. Cismar, Holstein, about 1620; d. 1687. Educated at the universities of Copenhagen and Rostock, where he paid special attention to mathematics and astronomy, he became an engineer, and, having acquired some local reputation, he went to London in 1660 where he became very much interested in the formation of the Royal Society of which he was a charter member and with which he remained closely connected all his life. Later on he went to France where he seems to have won a reputation as a skillful architect and engineer. He contributed by his writings to much of the scientific literature of his day and many of his papers appeared in the transactions of the Royal Society.

Among his most notable works are *Cosmographia* (1651); *Astronomia Sphaerica* (1651); *Rationes Mathematicae Subductae* (1653); *Logarithmotechnia* (1668–1674); *Institutionum Astronomicarum, Libri Duo* (published first in 1876). Nicolaus Kaufmann generally went under the name of Nicolaus Mercator, or at any rate his writings, for the most part, were signed with this signature.

KAUKAUNA, kô-kô'nâ, city, Wisconsin, in Outagamie County, altitude 709 feet, served by two divisions of the Chicago and Northwestern Railway. It is located 20 miles southwest of the city of Green Bay and 9 miles northwest of Appleton, with which it is connected by bus. It has been important as one of six advantageous sites on the Fox River, linking the Mississippi

with the Great Lakes. Originating as a trading post, the place was first settled in 1793 by Dominick Ducharme, and a legend says that he purchased the site from Indians for two barrels of rum. In 1818, Augustin Grignon got control of the trading business, and the Grignon family managed the fur trade and built the first gristmill and sawmill. The Grignon house, still standing was built in 1838 with lumber shipped from Buffalo. A dam in the river supplies the city's municipally owned, electrical power plant.

Kaukauna is a marketing center for an area devoted to agriculture and dairy products. The chief industrial wealth is derived from railroad shops, bag and paper works, fiber mills, brick and tile works, foundry and machine shops, and sulphite mills.

The city is governed by a mayor and council. It was chartered as a city on April 5, 1885. Pop. (1940) 7,382; (1950) 8,337.

KAULBACH, koul'bäk, Friedrich, German portrait painter: b. Arolsen, Waldeck, July 8, 1822; d. Hannover, Sept. 5, 1903. He was one of the members of the famous Kaulbach family and a nephew of Wilhelm von Kaulbach (q.v.), under whom he studied. He had much of the talent of his uncle and might have made a noted success at the painting of large canvases containing groups and many figures, but his success as a portrait painter made him such a favorite that most of his time was taken up with this especially remunerative work which led to his appointment as court painter and professor in the Hannover Polytechnic Institute. He painted most of the celebrities of his day, and among the best of his portraits are those of the Empress Elizabeth of Austria and Elizabeth Ney, the sculptor. Among his large historical paintings the most meritorious is the *Coronation of Charlemagne* (Munich).

KAULBACH, Friedrich August, German portrait and genre painter: b. Munich, June 2, 1850; d. Jan. 26, 1920. Son of Friedrich Kaulbach (q.v.) and grandson of Wilhelm von Kaulbach, he received his first instruction in art from his father and later continued his studies with Raupp and Kreling at Nuremberg, and later on with Diez in Munich. Under his father's teaching he early displayed a facility of coloring which he steadily improved under his subsequent teachers. His work shows much more boldness than that of his father and a sympathy with the German renaissance which the older Kaulbach did not possess. His facility in portrait painting and the reputation in art of the Kaulbach family together with his own evident talent and modernity early won for him wide local popularity which he gradually extended to include all of Germany. If not a really great artist, he has proved a versatile one. He has painted miniatures perhaps better than anyone else of his day in Germany and he has won for himself the reputation of being a good caricaturist. An excellent teacher of painting and drawing, he became director of the Munich Academy in 1886, a position he held until 1891. His appointment to this office was probably due to his success in winning the Berlin gold medal for painting in 1886.

Among his best-known paintings are *Cavalier and Lady's Maid* (1873); *A Day in May* (1879); *Schützenlied* (1881); *Lute-player* (1882); portraits of Frida Scotta, Princess Gisela, Prince

regent of Bavaria, Emperor William II, Empress Auguste Victoria and Daughter, Ruth St. Denis and *Entombment*, and numerous pictures of his wife, his family and his friends.

KAULBACH, Hermann, German genre painter: b. Munich, July 26, 1846; d. there, Dec. 1, 1909. He was a son of Wilhelm von Kaulbach (q.v.), who gave him early instruction in painting. Later he studied under Piloty, who seems to have influenced him more than his father had. He has considerable talent, but he stands apart from the sketchy style of his age in his love for minuteness of detail. He tends largely toward historical subjects which he handles in a manner that is always interesting and generally notable for the excellent handling of coloring. Among his best paintings are *Hänsel and Gretel and the Witch* (1872, Riga Municipal Gallery); *Last Days of Mozart* (1873, Vienna Municipal Gallery); *Sebastian Bach Playing the Organ in the Presence of Frederick the Great* (1875, Berlin Gallery); *Coronation of Saint Elizabeth* (1886, Wiesbaden Gallery); *At the Grave of a Friend* (1888, Munich).

KAULBACH, Wilhelm von, German painter: b. Arolsen, Oct. 15, 1805; d. Munich, April 7, 1874. He learned the rudiments of his art from his father who was a goldsmith and engraver on copper. He was a good draftsman when he went to Düsseldorf in 1821 and entered the Art Academy where his chief teacher was Cornelius, already acknowledged as the head of the Düsseldorf school of historic painting. When Cornelius in 1825 removed to Munich, at the invitation of King Ludwig of Bavaria, he followed him and soon became his disciple in the art of ceiling decoration, examples of which are *Pollo and the Muses* in the great hall of the Leon, and the allegorical figures of the *Four Great Rivers of Bavaria* and of *Bavaria* in the oratorio of the royal palace. His pure and classic power of design is well exhibited in the 16 wall paintings, illustrating the story of *Cupid and Psyche*, in the palace of Duke Maximilian at Munich. He was at this time attracted to the study of Hogarth's works, the fruit of which appeared in his illustration of books, including works of Shakespeare, Goethe and Schiller, and the *Reineke Fuchs*. He painted many great incidents in the history of Germany, including scenes from Klopstock's *Hermann's Battle*, and the *Death of Hermann*, wall paintings in the queen's palace at Kingsbau. But his most ambitious and comprehensive works are those in which he endeavored to represent the progress of the human race by a series of typical historic tableaux. These comprise the *Tower of Babel*; *Age of Homer*; *Destruction of Jerusalem*; *Battle of the Huns and Romans*; *The Crusaders*; *The Reformation* (1847-1863). The range of his intellectual ideas, his wonderful power of generalization, his mastery of every style of painting, his caricature to the sublimity of the Italian quattrocentists, as represented by Michelangelo, have no parallel among modern painters. His coloring may be a little cold, sometimes a little rude, but his sense of form, his loftiness of conception and his genius for harmonious composition have won for him the first place among German artists of the transition period between the idealism of Cornelius and the realism of the modern historic school.

KAULBARS, koul'bürs, **BARON Aleksandr Vasilievich**, Russian soldier and explorer: b. St. Petersburg, 1844; d. 1929. Educated for military life in his native town, from 1869 to 1873 he carried on explorations in central and east Asia, particularly in the Issyk Kol and Aral-Amu Darya regions; and served in the Russo-Turkish War (1878), as Bulgarian minister of war (1882-1883), and in a series of military posts culminating in command of the 3rd Manchurian army, and later also of the 2nd army, suffering defeat by the Japanese in the Battle of Mukden (1905). Governor general of the district of Odessa from 1904, he was removed from this post in 1913 on grounds of military incompetence and anti-Semitism.

KAULBARS, BARON Nikolai Vasilievich, Russian soldier: b. St. Petersburg (Leningrad), June 3, 1842; d. there, Dec. 3, 1905. He was an elder brother of Baron Aleksandr Kaulbars (q.v.). Educated for the army in his native city and in Berlin, he was appointed member of the Russian general staff (1868). Like his brother he took part in the Russo-Turkish War (1877-1878) and afterward he held several important government posts and finally became chief of staff of the 6th Army Corps at Warsaw (1889) which he left 10 years later to join the general staff at St. Petersburg (now Leningrad). He wrote on military subjects and did some important work as a cartographer.

KAUN, kown, **Hugo**, German musical composer: b. Berlin, March 21, 1863; d. there, April 2 1932. After a good education in Germany along musical lines, he came to the United States and settled in Milwaukee in 1887, where he took an important part in the musical life of the city for the next four years, organizing choral and other musical societies. He returned to Berlin in 1900. He has written much chamber music and numerous choral pieces, songs, prologues, piano music of various kinds and two one-act operas, *Der Pietist* and *Oliver Brown*; a symphonic poem, *Falstaff*, and a symphonic prologue, *Maria Magdalena*.

KAUNAS (Russ. KOVNO; Pol. KOWNO; Ger. KAUNEN), city, Lithuania, at the confluence of the Viliya and Neman rivers, on the Vilnius-Kaliningrad (Königsberg) Railway, 55 miles west-northwest of Vilna. Its industries include meat packing, dairying, food canning, and the manufacture of agricultural implements, heating equipment, tin-metal goods, prefabricated houses, chemicals, plastics, and textiles. It has a state university, an academy of agriculture, and a music conservatory. During World War II, the station, the municipal electric plant, and some of the university buildings were destroyed by the Germans in their retreat, but much of the town was saved. In 1950 Kaunas became capital of the newly-created Kaunas Oblast. Pop. (1939) 154,109.

KAUNITZ, kou'nits, **COUNT Wenzel Anton von** (PRINCE VON KAUNITZ-RIETBERG), Austrian statesman: b. Vienna, Feb. 2, 1711; d. there, June 27, 1794. After traveling in England, France and Italy he was appointed an imperial councillor in 1735 and was later sent on diplomatic business to Italy (1741-1742); and filled other important diplomatic posts, being imperial ambassador (1748) at Aix-la-Chapelle in the negotiations which

KAYES, kâz, town, French West Africa, on the Senegal River in French Sudan. The river is navigable from the sea to this point, above which are "narrows" and falls. A railroad links Dakar with Kayes, and continues as far as Koulikoro, on the Niger River just northeast of Bamako. Pop. (1949) 24,750.

KAYSERI, kî-sê-rê', or **KAISARIA**, kî-sâ-rê-yâ', city, Turkey, capital of the Kayseri Vilayet (area, 5,840 square miles; pop. 1945, 370,089), at the northern foot of Erciyas Dagi (Argaeus), the highest mountain in Asia Minor. It has been an important trade center for many centuries, among local commodities being hides, carpets, cloth, fruits, and raisins. Known to the ancients as *Caesarea Mazaca* (or *Mazaca*), it was the chief city of Cappadocia. Pop. (1945) 57,864.

KAZAKH, kâ-zâk', **SOVIET SOCIALIST REPUBLIC**, or **KAZAKHSTAN**, a union republic of the USSR, situated in Asia southwest of the RSFSR. It extends from the Caspian Sea and the lower Volga on the west to the Chinese province of Sinkiang on the east; on the southwest it is bounded by Soviet Central Asia. The area is 1,072,797 square miles (one third the size of the continental United States), and the population, much augmented by refugees from European Russia during World War II, was 6,600,000 in 1950. It is a dry-steppe region with many salt lakes, the largest being the Sea of Aral and Lake Balkhash. The mountain ranges of Tien Shan and Altai fringe the country on the east and southeast. Kazakhstan's principal rivers are the Emba, Irtysh, Ishim, and Ural. Next to the RSFSR, it is the main livestock region of the Soviet Union. The chief grain crops are wheat, barley, and oats; and cotton, sugar beet, and rice do well. Indigenous dandelions are a valuable source of rubber. The mines of Kazakhstan are of great importance. Coal deposits, the third richest in the USSR, are located at Karaganda, Chimkent, and Akmolinsk, and copper is produced at Kounradski on Lake Balkhash, at Dzhezkazgan, in western Kazakhstan, and at Boshchekul', where also are extensive lead and zinc deposits. The country leads all republics of the Soviet Union as a producer of copper, zinc, lead, and tungsten, and it ranks second in its yield of gold, molybdenum, and fluor spar. Borax is obtained at Lake Inder and phosphorites at Dzhambul, in the Kara-Tau Mountains, and there are valuable deposits of potash salts and natural chrome-nickel ores, the latter at Aktyubinsk. Among other metals found are cadmium, gallium, and silver. Large petroleum deposits at Emba, at the northern tip of the Caspian Sea, were developed rapidly during World War II, a pipeline 434 miles in length carrying the crude oil to refineries at Orsk, a railroad town in the Urals. Numerous textile and flour mills, meat-packing plants, and canneries have been built at Alma Ata (pop. 400,000 in 1944), formerly Vernyi, the capital, Semipalatinsk, Karaganda, Petropavlovsk, Chimkent, Dzhambul (formerly Aulie Ata), and other cities. The Orenburg-Tashkent Railroad, which enters the republic near Aktyubinsk, in the north, runs southward past the Sea of Aral to Chimkent, and thence continues to Tashkent, in Uzbekistan. A second line, the Turkestan-Siberia ("Turksib") Railroad, proceeds eastward from Chimkent to Alma Ata, northeastward to Semipalatinsk, and thence to Novosibirsk. The Trans-

Siberian Railroad traverses the northern part of the country for a short distance, and from Petropavlovsk, a Kazakh city on that line, a railroad runs southward to Bertys Bay, on Lake Balkhash. Kazakhstan has numerous elementary, technical and high schools, and a university at Alma Ata, established 1928. After the German invasion of western Russia in 1941 the universities of Kiev and Kharkov were temporarily transferred to that city. Kazakhstan was part of the Russian imperial governor-generalship of Turkestan which, in 1920, became an autonomous soviet socialist republic within the RSFSR, and when a redistribution took place in 1925 the country was made part of the Kirghiz SSR. On Dec. 5, 1936 it was detached and created a state member of the Soviet Union.

Consult Kunitz, J., *Down Over Samarkand* (New York 1935); Mikhailov, N., *Land of the Soviets* (New York 1939); Davies, R. A. and Steiger, A. J., *Soviet Asia* (New York 1942); Mandel, W., *The Soviet Far East and Essays on Central Asia* (Toronto 1944).

KAZAN, kâ-zân', river in central Canada. It rises in the southeast of the Mackenzie District, Northwest Territories, and flows in a northeasterly direction through several lakes in the Keewatin District to enter the southern end of Baker Lake. The length is about 450 miles.

KAZAN, city, Soviet Russia, capital of the Tatar Autonomous SSR, on the Kazanka 3 miles above its junction with the Volga, and 200 miles east of Gorki. There is a university, founded in 1803, and the ancient kremlin, cathedral, monasteries, and mosques still stand. The city is an important industrial center, manufactures including textiles, leather goods, soap, metal products, and synthetic rubber. The inhabitants of the original Kazan, 30 miles northeast of the present city, accepted the Islamic faith in the 10th century. The Tatars founded the new city in 1437 as the capital of the kingdom of the khan of the Golden Horde. In 1552 it was captured by Ivan IV Vasilievich (Ivan the Terrible), czar of Russia. Pop. (1939) 401,665.

KAZANLIK, kâ-zân-lîk', town, Bulgaria, in the Stara Zagora Department, in a valley on the southern slope of the Balkan Mountains. There are large rose gardens in the vicinity, and the chief industry is the manufacture of attar of roses. Pop. (1926) 11,598.

KAZBEK or **KASBEK**, kûz-byêk', a peak in the central part of the Caucasus Mountains, on the border between the South Ossetian Autonomous Region (Georgian SSR) and the North Ossetian ASSR. It is an extinct volcano 11,000 feet in height. The Terek is one of the principal rivers rising below the mountain's eight glaciers. The summit was first climbed, in 1868, by Douglas William Freshfield and three companions.

KAZINCZY, kô'zîn-tsi, **Ferenc**, Hungarian writer and linguistic reformer: b. Erhemlyen Oct. 27, 1759; d. Szeplalom, Nov. 22, 1837. Revolutionary tendencies led him into trouble in his younger and more ardent days. He was arrested in 1794 for participation in the political conspiracy of Abbot Martinovics and condemned to death, but the sentence was commuted to 10 years' imprisonment. Following his release, in 1801 he assumed leadership of the Hungarian literary movement, striving to foster

growth of a truly national literature written in Magyar tongue. Among his original works: *Magyar Museum* (1788-1792); *Orpheus* (1790); *Lanassa, a Tragedy* (1791); *Magyar gisegek* (*Hungarian Antiquities*, 1808); *Poetai rke* (1813); *Reise* (1813; new ed. 1831). Numerous editions of his works have been published before and since his death. Of these the most extensive are that which appeared at Pest in nine volumes, under his own supervision and consisting largely of translations (1814-1816) and a collection of his original poems and other writings published at the same city (1843-1844). Many partial editions have also appeared; one consisting of his plays, another (in popular form) of his poems, others of his translations and still others of his essays, sketches and travels. Even his voluminous correspondence has been published by the Hungarian Academy as important documentary material for the literary and political history of the first quarter of the 19th century. Though not really a great or original thinker, Kazinczy was really one of the greatest of benefactors of Magyar literature at a time when it was beginning seriously to assert itself. Through his translations of the more striking works of great German writers, such as Lessing, Wieland, Goethe and Klopstock and other notable literary masterpieces from Molière, a Rochefoucauld, Jean François Marmontel, Voltaire, Shakespeare, Metastasio and the classical writers, he furnished the Magyar people with a literature already made and done over into their own tongue in a most pleasing manner and in a new literary form. The rising school of young literary men fed upon it, imitated it, as Kazinczy himself had done, and finally created a national literature. His numerous followers exaggerated his work and placed a higher literary value upon it than posterity has sustained. What he accomplished was in reality the rehabilitation of the Hungarian tongue which had lagged woefully behind in the literary march of Europe. At the beginning of the 19th century the Hungarian language had come face to face with the fact that it had neither the wealth of vocabulary nor the perfected literary form fitted to express the new ideas and the rising culture of the nation, most of which were being rapidly introduced from abroad or developed at home. At this moment, Kazinczy, liberated from his years of prison life, appeared upon the scene, his reform proclivities still strongly alive. He introduced new words wherever and whenever he had need of them to express his own thoughts in his original composition or in those of the galaxy of foreign authors whom he introduced to the Hungarian reading public. Everywhere he met with opposition. Kazinczy's works were more than once burned by the public hangman. But the reform eventually triumphed, though with many modifications of its exaggerated claims following the death of Kazinczy of Asiatic cholera. Kazinczy had two aims in view, to embellish the Hungarian language and to improve its facilities of expression, while at the same time improving its literary form and manner of thought. To this end he wrote critical essays on the works of Hungarian authors. This gave him the reputation of being the greatest living native literary critic and this, in turn, led to a very extensive literary correspondence.

Consult Reich, E., *Hungarian Literature* (London 1900); Riedl, F., *Hungarian Literature* (London 1906).

KAZVIN or **QAZVIN**, *káz-vên'*, city, First Province, Iran, located at the southern foot of the Elburz Mountains, 90 miles west-southwest of Teheran. It was the capital of the former Kazvin Province, whose area of 9,826 square miles was absorbed in 1938 into Iran's First Province. The city trades in silk and agricultural products and engages in such industries as carpet weaving, oil-seed and flour milling, distilling, and soap manufacturing. Highways, a railroad, and an airfield make it a communications center. It is said to have been founded in the 4th century by Shapur II. Mongols invaded it in the 13th century. During part of the 16th century it served as the Persian capital. Landmarks include an 8th-century mosque built by Harun al-Rashid and a 16th-century mosque built originally by Tahmasp I. Pop. (1949) 80,000.

KEA, *kā'ā*, or **KEOS**, *kē'ōs* (Lat. *Ceos*), island, Greece, in the Aegean Sea. The northwesternmost of the Cyclades group, located 13 miles from the mainland, Kéa is 13 miles long, 7 miles wide, and 60 square miles in area. Products include citrus fruits, wine, olive oil, barley, silk, and cotton. During the Middle Ages and later the island, also known as Zea, was a pirate refuge. The town of Kéa is situated on the northern slope of Mount St. Elias (1,838 feet), on the site of ancient Iulis, birthplace of the physician Eristratus and the poets Bacchylides and Simonides of Ceos. Pop. of town (1940) 2,869. Pop. of island (1940) 3,749.

KEA, *kā'ā*, a large parrot (*Nestor notabilis*) of South Island, New Zealand, with a very strong bill that crosses at the tip. On the body, its plumage is olive-green barred with black, and, on the rump and the undersides of the wing, bright red. During the summer the kea lives in the mountains; during the winter, in the lowlands, where it feeds chiefly on insects. The story that it attacks living sheep in order to eat the kidney fat appears to have been much exaggerated, but the story led, for a time, at least, to the bird's wholesale slaughter.

KEAN, *kēn*, **Charles John**, English actor and theatrical manager: b. Waterford, Ireland, Jan. 18, 1811; d. London, Jan. 22, 1868. He was the second son of the actor Edmund Kean (q.v.), and studied at Eton. He turned to acting against his father's wishes, and made his first stage appearance on Oct. 1, 1827, as Young Norval in John Home's *Douglas*. Later, he acted with his father on several occasions. He was manager of the Princess Theatre, London, 1850-1859, and staged there a series of revivals, most notably of Shakespearean plays. By employing imaginative settings and painstakingly attending to historical accuracy he greatly influenced the future of the art of production. As an actor he was best in melodrama. He visited the United States in 1830, 1839, and 1845-1847, and toured in Australia, Panama, and Jamaica in 1863-1866.

His wife, **ELLEN TREE KEAN** (1805-1880), was an English actress whom he married in 1842. She made her stage debut at the close of the 1822-1823 season, acted at the Drury Lane Theatre during 1826-1828, and during 1829-1836 made a name as a comedienne at the Covent Garden Theatre. During 1836-1839 she appeared in the United States. After her marriage to Kean she played opposite him until his death.

KEAN, Edmund, English tragedian: b. London, Nov. 4, 1787; d. Richmond, Surrey, May 15, 1833. His supposed parents were connected in a low capacity with the theatrical profession, and early abandoned him to his fate. He appeared as Cupid at the age of four in a ballet of Jean G. Noverre's, and, attaining adolescence, for several years wandered about the provinces. He appeared as a reciter and singer, again as a tumbler in a circus during which capacity he once broke both his legs in an over-zealous fall, and later as a member of itinerant companies. He married a well-known actress of her day, Mary Chambers, in 1808, and in January 1814 finally appeared at the Drury Lane Theatre as Shylock. His success from this moment was decided and he at once commanded large salaries. William Hazlitt and Charles Lamb eulogized him. Samuel T. Coleridge said "To see Kean act is like reading Shakespeare by flashes of lightning."

At John P. Kemble's retirement in 1817 Kean took the foremost place on the English stage. He appeared in several other tragic roles, among them Richard III, Hamlet, Lear, Othello, and Iago, and was immensely successful as Sir Giles Overreach in Philip Massinger's *A New Way to Pay Old Debts*. In these characters he has perhaps never been equaled.

He first came to the United States in 1820, when he was seen with enthusiasm in New York, Boston, and Philadelphia. His hold on the public remained uninterrupted until 1825, when he appeared in the character of correspondent in a divorce case. During his second tour of the United States the following year he was attacked on stage and off for his part in the divorce, several of his performances ending up in riots. He never regained public favor to the extent he previously had it, and he made his last appearance in *Othello*, in company with his son Charles, in March 1833, but broke down during the performance. His death took place some three months later.

Although small of stature, Kean offset this drawback by remarkable facial control, being able at times to put unheard of power into insipid lines merely by contortions of his face. He was the greatest proponent of passion in his time, and as he acted, so he lived—passionately. His eccentricities could well be compared with those of another, more contemporary tragedian, John Barrymore.

KEANE, James John, American Roman Catholic archbishop: b. Joliet, Ill., Aug. 26, 1857; d. Dubuque, Iowa, Aug. 2, 1929. Educated in his native town, St. John's Seminary, Collegeville, Minnesota, and the Grand Seminary, Montreal, Canada, he was ordained a priest in 1882. Serving in various ministerial and pedagogical capacities, among them that of president of St. Thomas Seminary, St. Paul, and that of pastor of the church of the Immaculate Conception in the same city (1892-1902), he became bishop of Cheyenne diocese, Wyoming, in the latter year, and nine years later he was raised to the archbishopric of Dubuque, Iowa.

KEANE, John Joseph, American Roman Catholic prelate: b. Ballyshannon, Ireland, Sept. 12, 1839; d. Dubuque, Iowa, June 22, 1918. When seven years old he came to America with his parents, who settled in Baltimore, Md., pur-

sued his classical studies at St. Charles College, Baltimore, and later took a complete philosophical and theological course at St. Mary's Seminary, where, in 1866, he was ordained priest. He was then appointed assistant pastor at St. Patrick's Church, Washington, D.C., and 12 years afterward was consecrated bishop of Richmond, Virginia. In this new field he labored indefatigably, much of his attention being bestowed upon the Negroes, and when, in 1884, the American hierarchy decreed the foundation of the Catholic University, Bishop Keane was selected to devise plans for its organization. In 1889 the university was formally opened, he being chosen its first rector, and under his efficient administration it attained most gratifying success. Its generous endowments and splendid equipment were the result of his tireless efforts, and when, in January 1897, his rectorship ceased, he left the institution established upon a solid basis. The next two years he spent in Rome, and in 1899 returned to America at the earnest solicitation of the board of trustees of the university, and for two years labored to augment its endowments. On July 24, 1900, he was appointed to the archiepiscopal see of Dubuque. He resigned in 1911 and James John Keane (q.v.) succeeded him.

KEARNEY, kâr'nî, Denis, American labor agitator: b. Oakmont, County Cork, Ireland, Feb. 1, 1847; d. Alameda, Calif., April 24, 1907. He went to sea from 1858 to about 1868, when he settled in San Francisco, becoming foreman of stevedores and later going into the draying business. In 1877 he began an agitation among the workingmen, his attacks being directed mostly against the rights of capital and the importation of Chinese labor. Large mass meetings were held on a sand lot by the new city hall, and the movement, called the Workingmen's Party, grew rapidly in power and importance, being dominated entirely by Kearney. Finally he was able to pack a convention which adopted a new state constitution in 1879 in the interests of his movement, and very detrimental to capital and property interests. In 1878 he visited the Eastern states, speaking in the large cities, but failed to gain an important following; on his return to California he gradually lost his influence and his party sank into obscurity.

KEARNEY, city, Nebraska, and Buffalo County seat, altitude 2,146 feet, served by the Union Pacific and the Chicago, Burlington and Quincy railroads and state and federal highways 45 miles west-southwest of Grand Island. Located in the fertile plains bordering the Platte River on the northern side, Kearney is the trading center of a wide area given up to diversified farming, with alfalfa, corn and wheat, sugar beets, and potatoes as leading crops. Ditch irrigation is extensively practiced in Buffalo County, the field system being fed from wells by pumping. The wells tap an underground stream that follows the course of the Platte for hundreds of miles and extends several miles on either side of the river. In this region the first successful demonstration was made of growing crops of alfalfa without irrigation; that is, by the dry-farming method. Manufactures of the city are widely diversified and include concrete blocks, air conditioners, trailers, harness and saddles, and dairy products. Besides the public and parochial schools,

Kearney has the State Industrial School for Boys and the Kearney State Teachers College. In connection with its public school system, the city maintains a vocational agricultural department, with a full-time director conducting classes in the Manual Arts Building. There are in the city three general hospitals and a state hospital for tubercular patients. The city has an armory, used as an auditorium, for conventions and other community activities. Harmon Field (16 acres) has a swimming pool, large rock garden, lighted baseball and softball diamond, all types of playground equipment, in fact everything to provide wholesome recreation for young and old. Seven miles out of town is Fort Kearney State Park, on the site of old Fort Kearney, established in 1848 for protection of settlers traversing the region in wagon trains, and abandoned in 1871, when the development of railroad traffic removed the need for such military protection. The city was named for the fort, and the fort for Gen. Stephen Watts Kearny (q.v.), who spelled his name without an "e" in the second syllable; but the extra letter found its way into the town incorporation papers, and so became official. Originally called Kearney Junction, it was founded in 1871, and incorporated in 1873. Government is by city manager. Pop. (1950) 12,115.

KEARNS, Thomas, American politician: b. near Woodstock, Ontario, April 11, 1862; d. Oct. 18, 1918. He attended the public schools and his father's removal to Holt County, Neb., 1872, then worked on the home farm until he was 14. After several years spent as a freighter Nebraska he removed to Utah in 1883, where worked at first as a miner, becoming subsequently one of the owners of the Mayflower and Silver King mines. He was a member of the common council of Park City, Utah, in 1895, and was a delegate to the National Republican convention the same year. He was also a delegate to the Philadelphia convention in 1900, and is a member of the United States Senate in 1905. He was largely identified with the mining interests of Utah and was also known as railroad promoter.

KEARNY, kār'nī, Lawrence, American naval officer: b. Perth Amboy, N. J., Nov. 30, 1799, d. there, Nov. 29, 1868. Having entered a navy in 1807, he was active in the defense of the coast of South Carolina and states adjacent during the War of 1812, and in 1826 in command of the *Warren* effectually put an end to the predations of the Greek pirates in the Levant. Promoted captain (1832), he was assigned in 1840 to the command of the East India squadron, and began the negotiations for a commercial treaty between China and the United States, later concluded by the special envoy, Caleb Cushing. On his return voyage to the United States, Kearny stopped at the Hawaiian Islands to protest against the contemplated transfer of the islands to Great Britain. He retired in 1861 and in 1867 he was made commodore on the retired list.

KEARNY, Philip, American soldier: b. New York, June 1, 1814; d. near Chantilly, Va., Sept. 1, 1862. He was graduated from Columbia in 1833, studied law, but in 1837 entered the United States Army as lieutenant of the 1st Dragoons, and in 1830-1840 was in Europe for the study of

the cavalry service of the French Army, with which he fought in the Algerine War. In 1841 he was on the staff of Gen. Winfield Scott, in 1846 resigned from the army, but soon afterward enlisted for the Mexican War, fought at Contreras and Churubusco, and at the close of the latter engagement charged and pursued into Mexico City the retreating enemy. He again resigned from the army in 1851, in 1859 entered the French service, and participated in the war in Italy, where he fought at Solferino. On May 17, 1861, he was appointed brigadier general in the Union service, and given command of the 1st New Jersey brigade in the Army of the Potomac. Later he was assigned to the command of the cavalry of that army, and served conspicuously in the Peninsular campaign. He was commissioned major general of volunteers July 7, 1862, took part in the second Bull Run, and subsequently at Chantilly was shot while reconnoitering. Kearny was a brilliant cavalry leader, termed by Scott "the most perfect soldier" he ever knew.

KEARNY, Stephen Watts, American general: b. Newark, N. J., Aug. 30, 1794; d. St. Louis, Mo., Oct. 31, 1848. He entered the United States Army in 1812 as lieutenant, and distinguished himself in the action at Queenston Heights in the same year. He served throughout the war, and, after extensive service on the Western frontier, became in June 1846 a brigadier general. At the commencement of the Mexican War he commanded the Army of the West, which marched from Fort Leavenworth, Kansas, westward and conquered New Mexico. Having established a provisional civil government in Santa Fe, he proceeded to California, and participated with his command in the Battle of San Pascual, in December 1846, where he was defeated by the Mexicans. For his services in this campaign he was appointed brevet major general, his commission being dated from the Battle of San Pascual. He was governor of California from March to June 1847 after he had occupied Los Angeles but subsequently joined the army in Mexico, where he continued until the close of the war. He wrote *Manual for the Exercise and Maneuvering of United States Dragoons* (1837); *Laws for the Government of New Mexico* (1846).

KEARNY, town, New Jersey, in Hudson County, altitude 120 feet, located at the head of Newark Bay, between the Passaic and Hackensack rivers, 9 miles west of New York. It is served by the Erie, the Pennsylvania, the Lehigh Valley, the New Jersey Central, and the Delaware, Lackawanna and Western railroads. Kearny has ten miles of waterfront on the two rivers, both of which afford tidewater channel passage to large ships in coastal trade. Nearby is Newark Airport; state and federal highways provide means for motor transportation. Many of the nation's greatest manufacturing concerns have plants at Kearny. Among the many products are machinery, truck bodies, shoes, varnishes, chemicals, linoleum, drugs, plastics, and plumbing supplies; shipbuilding and oil, gold, and platinum refining are also important Kearny industries. The town is governed by a mayor and eight councilmen, two from each of the four wards. Kearny combines with five other municipalities in control of water supply under the

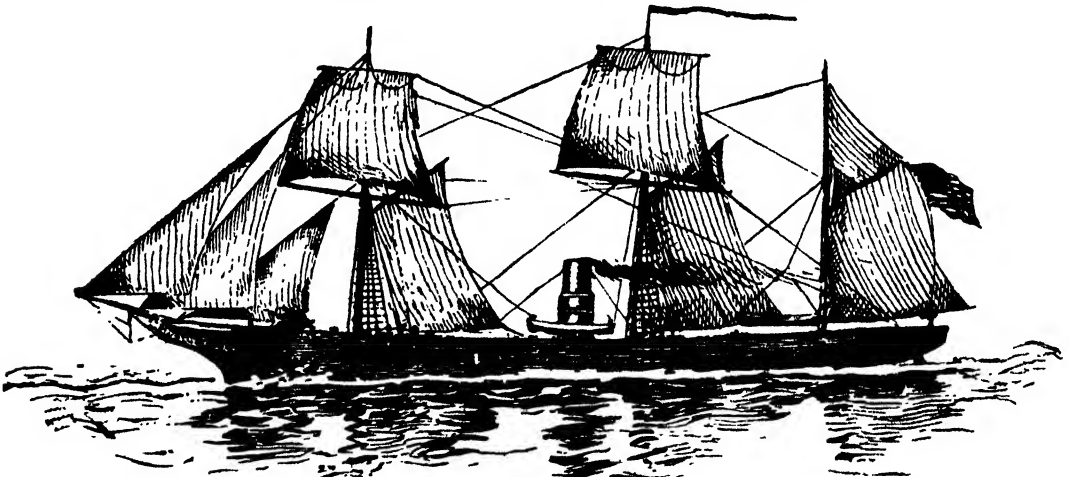
North Jersey District Water Supply Commission. The town has two libraries and a hospital.

In 1668 a William Sandford from Barbados bought up the land including the present city of Kearny for the East Jersey proprietors, paying them £20 and paying the Indians, among other things, 200 fathoms of wampum and 19 black coats. He named his land New Barbados and from it were eventually formed the towns of Lodi, Harrison, and Kearny. In 1765 Kearny, then a part of Harrison, was settled by an influx of Germans, and in 1871 it was incorporated separate of Harrison and named in honor of Gen. Philip Kearny. With the establishment of heavy industry in Kearny a great many Scots settled here to work in the mills and they still form a large proportion of the population. Pop. (1950) 39,352.

KEARSARGE, kēr'sārj, a mountain, New Hampshire, in Merrimack County, with a height of 2,937 feet. It was once called Kyar-Sarga, and is part of the White Mountains.

KEARSARGE, The, a ship of the United States Navy which played a conspicuous part in the only sea fight of the Civil War, when it destroyed the *Alabama*, a ship built in England at Birkenhead on the Mersey by the Lairds under contract with the Confederate States at a cost of \$250,000, and sent to sea as a privateer, in the spring of 1862. The vessel was known as "290."

received on board as armament two pivot guns amidships and six 32-pounders, eight guns in the fore and aft. The manning of the ship was 25 officers in all and 124 men. Stores for a long cruise were taken aboard, and the vessel, equipped for both steam and sail, entered promptly upon her memorable career. On the night of Jan. 11, 1863, the United States steamer *Hatteras* engaged the *Alabama* off the coast of Texas and was sunk. The *Alabama* roved the seas for two years, seeking to cut off commerce of the United States from both hemispheres. The privateer was supposed to have destroyed one-half the American merchant marine, then second in tonnage only to that of Great Britain among the nations. On the forenoon of June 11, 1864, the *Alabama* anchored in the port of Cherbourg, France. The intent of Captain Semmes was to dock his ship for much-needed repairs. While Semmes was awaiting the consent of the Emperor Napoleon III to the use of the government docks, the news of the arrival of the privateer spread over the land. Captain John A. Winslow, commanding the United States ship *Kearsarge*, lying at Flushing, was apprised of the fact by William Lewis Dayton, United States minister to France, and made for Cherbourg, sailed into the harbor and out without anchoring, but took position outside. Semmes rightly construed the conduct of the *Kearsarge* as the equivalent of a challenge to combat. The *Alabama* steamed out on Sunday morning, June 19, 1864, in faultless weather. The *Kearsarge*



The United States screw-sloop *Kearsarge* at the time of her encounter with the *Alabama*. After the engagement alterations were made in the *Kearsarge* which considerably changed her appearance.

The name indicated only that the vessel was number 290 in order of launch from the builders' yards. Protest had gone to the British government from the American minister at the Court of St. James, Charles Francis Adams (q.v.), against the sailing of the ship. Meantime Capt. Raphael Semmes and 24 young naval officers from the Confederacy arrived in Liverpool with commissions in their pockets to take command. For sake of prudence Captain Semmes ordered the "290" to sail for the island of Terceira, one of the Azores, under command of a young officer of the British merchant marine. Semmes immediately followed as a passenger on an English ship. His armament had been already shipped to the same rendezvous. At Terceira the privateer ran up the Confederate colors, took her name as ordered by the Confederate government, and

machinery was additionally protected by a chain armor covered with one-inch deal boards. However, as that part of the ship was struck but twice the armor was of no material aid. The *Kearsarge* had 162 men and seven guns; the *Alabama* 149 men and eight guns. The metal carried by the *Kearsarge* guns was heavier than the metal of the *Alabama* guns. The battle was fought in a circle and lasted one hour and two minutes, resulting in the sinking of the *Alabama*. In the first 30 minutes the *Alabama* lodged a rifled percussion shell near the sternpost of the *Kearsarge*, which from a faulty cap failed to explode. The shell is now to be seen, in the wood where it buried itself, in the ordnance museum of the navy yard at Washington. Captain Semmes remained on the deck of his ship until it went down. He and 41 others from the sunken vessel were res-

ued by the *Deerhound*, a pleasure yacht belonging to John Lancaster, an Englishman. Many persons had come from Paris to view the battle and the hills along the coast were lined with spectators as it progressed. After the close of the war the British government paid an indemnity to American shippers of \$15,500,000, representing losses inflicted by the *Shenandoah* (in part), the *Florida* (in full), and the *Alabama* (in full).

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KEARY, kē'ri, Annie, English novelist: b. Bittan near Wetherby, Yorkshire, March 3, 1825; d. Eastbourne, Sussex, March 3, 1879. Beginning a literary career with books for children, she made her reputation with stories of Irish life, although she never had been in Ireland, and became very popular, *Castle Daly* (1875) being her best work. Among other fictions by her are *Clemency Franklyn* (1866), and *A Doubting Heart* left unfinished at her death and completed by Mrs. Katharine Macquoid. She also published such historical works as *Early Egyptian History* (1861) and *The Nations Around* (1870).

KEATS, kēts, John, English poet: b. London, Oct. 29 or 31, 1795; d. Rome, Feb. 23, 1821. He was the eldest child of Thomas Keats, employee and son-in-law of a livery-stable keeper named Jennings, and was born at the stable in Finsbury Pavement. There were four other children, three of whom reached maturity, George, Thomas, and Frances (Mrs. Llanos). In 1804, Thomas Keats, who like his wife, Frances, seems to have been a strong character, died from a fall from his horse. His widow soon remarried, but was speedily forced to leave her new husband and to reside with her mother at Edmonton, where she died, after a rapid decline, in 1810.

Meanwhile the boys had been placed at Mr. John Clarke's school at Enfield, where John distinguished himself by his manly pugnaciousness and, later, by his zeal for literary studies, particularly mythology. He formed a friendship with the master's son, Charles Cowden Clarke (q.v.), an underteacher, who encouraged his literary tastes; but unfortunately Keats' guardian, in 1810, took him from school before he had begun Greek, and apprenticed him for five years a surgeon at Edmonton.

He was still near enough to young Clarke to profit from the latter's influence, and Elizabethan poetry, especially Edmund Spenser's *The Faerie Queene* awoke his poetic genius. His earliest known poem, *Imitation of Spenser*, dates probably from 1813. The study of medicine became distasteful to him and a break with Hammond, the surgeon, followed in 1814. Keats went to London, studied fitfully in the hospitals, and more and more gave himself up to reading and writing verse. The best of his early poems, the *First Looking into Chapman's Homer*, seems to date from the summer of 1815, and was composed after a night of reading with Clarke. Besides this friend certain fellow students and his brothers formed Keats' chief society. In the winter of 1816 Clarke introduced him to Leigh Hunt (q.v.) whose influence upon him was at first very strong. Through Hunt, Keats was led to widen his reading, especially in the direction of Italian

poetry, and to develop an appreciation of the arts; but the elder poet also encouraged his new protégé's luxuriant sentimentality and, through his own unpopularity, prepared the way for the critical hostility which Keats encountered as a member of the so-called "Cockney School."

The first of his poems to be printed was the sonnet *O Solitude*, which appeared in Hunt's *Examiner* for May 5, 1816. A little later Keats, who had previously been appointed a dresser at Guy's Hospital, passed his examination as licentiate at Apothecaries' Hall; but we hear more of literary plans and of acquaintances, such as Percy Bysshe Shelley and John Hamilton Reynolds, than of preparations for practice. He was much at Hunt's cottage at Hampstead, he visited the seashore, he wrote epistles in verse and prose to friends and relatives. By the winter of 1816-1817 he had become intimate with the painter, Benjamin R. Haydon, had published several sonnets in *The Examiner*, and had made up his mind definitely to abandon medicine for poetry. His first volume, *Poems by John Keats*, with a dedication to Hunt, was published early in March 1817.

The book, naturally, fell flat. Keats was still immature in thought and feeling, he had reacted too far from the pseudo-classical taste of the majority of readers toward the unrestrained luxuriance of style of the later Elizabethans, and he had submitted too unreservedly to the mawkish and shallow aestheticism of Hunt. The young poet took his disappointment well and resolved to improve himself by study. In April 1817 he went alone to the Isle of Wight, then with his brother Tom he visited other places, and by midsummer he was domiciled with both his brothers at Hampstead, where he saw much of literary and artistic friends, including Charles Wentworth Dilke, Charles Armitage Brown, and the painter, Joseph Severn. More important for his poetical development, however, was the growing influence of William Shakespeare and of the loftier, more spiritual portion of William Wordsworth's verse, which may be seen in *Endymion*. This ambitious poem was begun on the Isle of Wight, steadily labored upon during the summer and fall despite distractions such as a visit to Oxford, and finished at the end of November 1817, at Burford Bridge, near Dorking. Keats spent the winter of 1817-1818 in London, seeing *Endymion* through the press, frequenting theaters, and having a rather gay time with his friends. Before *Endymion* was published in April 1817, he had begun with J. H. Reynolds the experiment of making metrical versions of tales from Boccaccio, and in *Isabella, or the Pot of Basil* he had given evidence, not only of maturing thought and of increasing control of his emotions, but of a manly faculty of self-criticism that enabled him to perceive without flinching the faults that jostled the beauties of *Endymion*.

The last-named poem received a few favorable reviews, but made little impression on the public. Still fascinated with Greek mythology, Keats chose another subject from it, that of the fall of the Titans; but, before beginning *Hyperion* he wisely resolved to study a more restrained model than his beloved exuberant Elizabethans—to wit, John Milton. Meanwhile his brother George married and removed to Kentucky, and Keats with Armitage Brown took a tour, partly on foot, through the Lake Region and a portion of Scotland. Exposure and

strain undermined Keats' health so much that a physician at Inverness had to order him home. He reached London in August 1818, where the sad task awaited him of nursing without hope his consumptive brother Tom through more than three months of decline. Just at this time an ironical fate decreed that the *Quarterly* and *Blackwood's* should publish their now notorious diatribes upon 'Endymion' (by John Wilson Croker and, probably, J. G. Lockhart, respectively). Keats on the whole bore the attacks well; but unfortunately Byron and Shelley have made the world think otherwise.

During the fall of 1818 Keats began 'Hyperion,' and wrote long letters to George and his wife in America. He also made the acquaintance of a handsome girl of 17, Miss Fanny Brawne, and speedily falling in love, became engaged to her. Rarely at his best in his relations with women, owing partly perhaps to his antecedents, partly to his sensuousness, partly to the struggles of his spirit to escape from its actual environment to the ideal world of beauty and romance, Keats gave himself up to this passion with an abandonment that might be described as disgusting, did not one make allowances for his slowly failing health.

After the death of Tom Keats, 1 Dec. 1818, the poet resided for a time with Armitage Brown at Wentworth Place. Here he not only worked at 'Hyperion,' but wrote many of the poems that mark the zenith of his genius, such as 'The Eve of Saint Agnes,' the odes 'On a Grecian Urn,' 'To a Nightingale,' and 'To Psyche,' and the ballad 'La Belle Dame sans Merci.' It was an extraordinary six months' work (December 1818-May 1819) for an ailing poet in his 24th year. And he was not merely sick in body but poor in purse, most of his patrimony having been tangled up by his guardian, or spent, or loaned to impecunious friends. Other friends, like Brown, stood by him, however, though this fact can scarcely have made the marriage he dreamed of seem much more possible. He took summer excursions, wrote on a tragedy, 'Otho the Great,' with Brown, and completed his own 'Lamia,' in some respects the most individual and promising of his narrative poems. He abandoned 'Hyperion,' rightly judging that it was too Miltonic, yet he did not cease to form literary plans and to face the present and the future bravely. But on his return to London, he came once more under the influence of Miss Brawne, and he lost ground in health, courage and literary power. His work in the drama and in satire proved on the whole unavailing; he recast 'Hyperion' for the worse ('The Fall of Hyperion'); and he lost his cheerfulness, becoming moody, suspicious and somewhat dissipated.

Early in February 1820 he had his first hæmorrhage from the lungs and was confined for several weeks, Brown being his indefatigable nurse. With Fanny Brawne, who was living next door, he kept up a correspondence which many of his admirers could spare. When he was stronger, Brown having left for Scotland, Keats occupied himself by seeing through the press his third volume—one of the most memorable in the history of our literature, for it can scarcely be disputed that in color and form latter-day English poetry owes more to Keats than to any other writer among the moderns. It was entitled 'Lamia, Isabella, The Eve of

Saint Agnes and Other Poems,' and was welcomed, not only by friends like Hunt, but by such a critic as Jeffrey, in the *Edinburgh*. It appeared early in July 1820, just after two hæmorrhages had shown that its author must be soon cut short in what promised to be nothing less than a marvelous career.

During his new illness, Keats was kindly nursed by the Hunts; then ungrounded suspicions of their friendship caused him to leave them, and he was welcomed by Mrs. Brawne and her daughter. Becoming more tranquil, he determined to see what the climate of Italy could do for him, and with Severn he sailed for Naples in September. On the voyage he wrote his last poem, the fine sonnet 'Bright star, would I were steadfast as thou art.' After reaching Rome about the middle of December, he suffered many violent attacks of fever and pain; then he lingered in a calmer state of mind and body until death took him from the arms of the faithful Severn, in the early morning of 23 Feb. 1821. He was buried three days later in the old Protestant cemetery at Rome and on his tomb was placed at his desire the non-prophetic epitaph, "Here lies one whose name was writ in water." In 1881 Severn was laid by his side; long before (December 1822) the ashes of the author of 'Adonais' had been buried nearby.

In person Keats was small, but evidently in his early years strong and well made. His features were clear cut and his eyes large, dark and full of meditative depth. In character he seems to have been essentially open, kindly and manly. That his social status and his exceptionally sensuous nature were without deleterious effects upon his life, as well as upon his poetry, it would be idle to assert; yet it would be equally beside the mark to think of him chiefly as a hyperæsthetic anomaly among the men of his day. He was far more than a lower middle-class Briton of the Regency; but he was also more than the neo-Greek, or the neo-Elizabethan, or the idolatrous priest of beauty that some have fancied him. He was a wonderfully endowed poet of strong human interests, keen intelligence, ever deepening moral sense, extraordinary sensitiveness to physical impressions—not only upon eye and ear, but upon taste and touch—growing appreciation of artistic form, and steadily developing power of self-control. He filled all the rôles his admirers have claimed for him; but he filled them, or was learning to fill them, in combination—a fact which makes him greater than even some warm admirers have fancied.

His rank among English poets is not easy to determine. In a sense Matthew Arnold was right when he declared that Keats "is with Shakespeare." It might be added that he is with Milton also; but he is with these supreme poets only in respect to certain qualities of genius. He is obviously not with them in sustained power, in unexcelled majestic achievements, in breadth and duration of popular appeal. Even when he is compared with his contemporaries he is found to lack, in a measure, Byron's passion and cosmopolitan influence, Wordsworth's power to calm and ennoble the spirit and quicken the vision, Coleridge's ineffable secret of casting glamour, and Shelley's gift of interpenetrating poetry and life with the radiance of a pure idealism. In quantity of

approximately perfect work he falls short; of course, through no fault of his own. The juvenile volume of 1817 and 'Endymion,' though in a sense the latter confirms the truth of its first line that "a thing of beauty is a joy forever," are on the whole immature, and the posthumous poems and letters, though abounding in merits, are uneven in value and below the highest excellence. It is mainly on the magnificent volume of 1820—on the impressive artistic mastery shown in 'Lamia,' on the romantic charm of 'The Eve of Saint Agnes,' on the tender pathos of 'Isabella,' on the matchless harmonies, the deep, subtle appeal to mind and heart, and the indescribable richness of the great odes, on what it is hardly rash to call the dewy felicity of some of the less elaborate lyrics that the claim of Keats to rank among the greater English poets rests, and rests securely. To lovers of poetry he has long been almost an idol; the public has scarcely yet realized the full significance of his noble, and in some respects unique, genius.

Bibliography.—Keats' poems were first collected, with those of Coleridge and Shelley, in 1829. In 1848 R. M. Milnes (Lord Houghton) published the 'Life, Letters and Literary Remains' (revised 1867); biographical material then began to accumulate through such books as Hugh Hunt's 'Autobiography.' In 1876 Mr. H. Forman edited the letters to Fanny Brawne, in 1885 the works in prose and verse in four volumes (reissued and augmented in 1889). In 1911 G. Speed, of the American branch of the mily, issued a volume of 'Letters and Poems.' In 1887 brief lives of the poet appeared in 'Great Writers' and the 'English Men of Letters' by W. M. Rossetti and Sidney Colvin respectively. In 1891 Mr. Colvin edited 'Letters of John Keats to His Family and Friends.' In 1905 Mr. Forman issued the complete correspondence (1 vol.), and in 1901 what is the best monograph of the entire works (5 vols.). The American Cambridge edition of the poems and letters is also good. There are numerous editions of the poems, including several by Lord Houghton (especially the Aldine, 5th ed., 1890), one by W. T. Arnold (1883), the 'Golden Treasury' by F. T. Palgrave (1884), and the latest and best by E. de Selincourt (1905). On 18 May 1914 the London *Times* published two previously unpublished sonnets by Keats. Books dealing with Byron, Shelley and Hunt usually touch on Keats, and the mass of criticism upon him is large. Among his chief critics are Matthew Arnold, Robert Bridges, DeQuincey, Dowden, Leigh Hunt, Imagination and Fancy'), Lowell, Masson, J. Robertson, Swinburne and Woodberry. Consult also Sharp's 'Life and Letters of Joseph Severn' (1892); Marie Gotheim's 'John Keats, Leben und Werke' (1897); Colvin, S., 'John Keats' (1917); Brandenburg, A. J., 'Life of John Keats' (1929); Murry, J. M., 'Studies in Keats' (1930). See also ENDYMION; HYPERION; ISABELLA; LAMIA; ODE ON A GRECIAN URN; ODE TO A NIGHTINGALE. WILLIAM P. TRENT, Late Professor Emeritus of Literature, Columbia University.

KEBBEL, Thomas Edward, English journalist: b. 1826; d. November 1917. Educated in London and Oxford, he was called to the bar in 1862; but he had already drifted into jour-

nalism in 1855, and for 60 years he strenuously followed that profession. In 1873 he joined the *Standard* in London, and contributed political, biographical and literary articles to its columns until that paper ceased publication in 1916. He also wrote freely on sporting matters and country life. Kebbel was for many years a close personal friend of Disraeli (Lord Beaconsfield), whose biography he wrote. Among his publications in book form are lives of Lord Derby, the poet Crabbe, a collection of Beaconsfield's speeches, 'Essays on History and Politics,' and a history of Tory administrations. His 'Agricultural Labourer' is a successful study of country life and ways. In 1911 he published a volume of recollections of his long career entitled, 'The Battle of Life.'

KEBLAH. See KIBLAH.

KEBLE, kē'bl, John, English Anglican clergyman and poet: b. Fairford, Gloucestershire, 25 April 1792; d. Bournemouth, Hampshire, 29 March 1866. He was educated at Corpus Christi College, Oxford, and took his degree in 1811 with high honors. Going to Oriel College as a Fellow, he became tutor and public examiner, and in 1831–41 was professor of poetry. He took priest's orders in 1816 and was his father's curate for some time. He was appointed vicar of Hursley, near Winchester, in 1836, a position which he held until his death. To the world at large he is best known as the author of the famous volume of religious verse, 'The Christian Year.' He also wrote the 'Lyra Innocentium,' and, with Newman and others, the 'Lyrica Apostolica.' He was a zealous High Churchman, and wrote several of the celebrated 'Tracts for the Times' (1833). Keble College, Oxford, was founded as a memorial of him. Consult 'Lives' by J. T. Coleridge (1869), and Lock (1892); Yonge, 'Musings over the Christian Year' and 'Lyra Innocentium'; Shairp, 'Studies in Poetry and Philosophy' (1868); Newman, 'Apologia pro Vita sua' (1864); Yonge, 'John Keble's Two Parishes' (1898). See CHRISTIAN YEAR, THE.

KEBLE COLLEGE, one of the colleges of Oxford University, built by subscription as a memorial of the Rev. John Keble, the author of 'The Christian Year,' and incorporated in 1870 by royal charter. The intention of its founders was to establish a "college wherein sober living and high cultivation of mind may be combined with Christian teaching based upon the principles of the Church of England." It is governed by a warden and a council composed of not less than nine and not more than 12 members. There are from 250 to 300 undergraduates in attendance. One of the adornments of its beautiful chapel is Holman Hunt's famous picture, 'The Light of the World.'

KECSKEMET, kēch'kē-mât, city in Pest, Hungary, about 65 miles from Budapest. It is noted for its great annual cattle fair. It is the centre of an agricultural district which is engaged principally in the raising of grapes, and other fruit, tobacco, grain, cattle and vegetables. Large quantities of wine are exported and a very extensive trade is carried on in brick and flour, which are home products, and apples and apricots. Pop. 79,418, principally Magyars.

KEDAH, kă'dă, state, Federation of Malaya, bounded on the north and northeast by Thailand (Siam), on the southeast and south by Perak, on the southwest by Province Wellesley, on the west by the Andaman Sea, and on the northwest by Perlis. The area is 3,660 square miles, and the population in 1948 numbered 561,411. Several islands are included within the state, among them Langkawi, off the northwest coast, which rises to a peak 2,888 feet in height. Kedah has a length, north to south, of 115 miles, and a maximum breadth of 46 miles; the coastline is 65 miles long. A mountain range along the eastern border rises to a maximum elevation of some 6,000 feet. Rivers are short; the principal ones are the Kedah and the Muda, the latter forming the boundary with Province Wellesley. Alor Star (pop., 1947, 32,424), the capital, is on the Kedah River 10 miles from its mouth. Next largest town is Sungei Patani (pop. 10,000), near the coast 15 miles north of Butterworth, Province Wellesley. The state is traversed by the west coast line of the Malayan Railway. There are numerous rubber estates, and rice is cultivated on a large scale; other crops include tapioca, and there are many coconut trees. Livestock is reared in the eastern part of the state. Kedah became subject to the sultan of Achin (Sumatra) in the 17th century, but subsequently came under the suzerainty of Siam. Control was slight, however, and in the 18th century the East India Company was able to negotiate with its ruler, leasing from him Penang in 1786 and Province Wellesley in 1800. The Siamese government exercised stricter control over the state from 1821 down to 1909, when it came under British protection. Thereafter Kedah was one of the Unfederated Malay States until 1946, when it was absorbed into the newly organized Malayan Union; in 1948 this was reconstituted as the Federation of Malaya.

KEDGE, a small anchor used for the handling of ships under various conditions, generally while in the harbor. The kedge has an iron stock and is frequently used as an ordinary anchor for small vessels and boats. The English sailor, who has forgotten that kedge means, in itself, anchor, frequently speaks of a kedge anchor.

Kedging, in seamanship, is a method of moving a small ship without the use of sails or engine. The anchor, made fast to the ship by a line (or chain), is carried by boat in the desired direction, then dropped, and the ship is moved by hauling in on the line by hand or winch.

KEDIRI, kă-dê'rê, town, Indonesia, located in East Java, on the Brantas River 65 miles southwest of Soerabaja (Surabaya). It is one of the centers of the sugar industry. Besides sugar cane, in the fertile plain of the Brantas in the neighborhood of Kediri, coffee, cacao, cassava, and coconuts are cultivated. In former times the town was the capital of the Hindu-Javanese kingdom of Kediri. It is the capital of a similarly named residency. Pop. (1951 est.) 100,000.

KEEBLE, Sir Frederick William, British botanist: b. March 2, 1870. He was educated at Caius College, Cambridge University, and in 1914 he became director of the Royal Horticultural Society's Garden, at Wisley. From 1920 to 1927 he was Sherardian professor of botany at Oxford, and during 1938-1941 he was Fullerton professor at the Royal Institution. He was knighted in

1922. His numerous writings included *Science Lends a Hand in the Garden* (1939).

KEEFE, Daniel Joseph, American labor leader: b. Chicago, Ill., Sept. 27, 1852; d. there Jan. 2, 1929. In boyhood a worker in a shingle mill, he became active in the labor movement. In 1892 he was elected president of the International Longshoremen, Marine, and Transport Workers Association. From 1908 until 1913 he was United States commissioner general of immigration.

KEEFER, kē'fēr, George Alexander, Canadian engineer: b. Cornwall, Ontario, 1836; d. 1912. Educated at Upper Canada College, Toronto, as engineer, he entered the employ of the Grand Trunk Railway as surveyor. At the age of 36 he became engineer to the government of Canada, working on railway constructing and survey until 1886, during which period he built an important section of the Canadian Pacific Railway and later on constructed the waterworks system of the city of Vancouver. After serving from 1900 as resident engineer of the Dominion Public Works in the province of British Columbia, he became head of a commission of Canadian engineers appointed by a Canadian syndicate to make a report upon the proposed route of the Trans-Siberian Railway between Vladivostok and the Amur River. This report, which was made, was subsequently used by the Canadian company for the building of the section of the road from Vladivostok.

KEEFER, Samuel, Canadian engineer, b. Thorold, Ontario, Jan. 20, 1811; d. Brockville, Ontario, Jan. 7, 1890. He was a brother of T. C. Keefer (q.v.). In 1841-1853 he was chief engineer of the government Board of Public Works, in 1853 was appointed resident engineer of the Grand Trunk Railway, and in 1857-1864 was government inspector of railways and deputy commissioner of public works. He completed in 1860 the Niagara Falls suspension bridge, then the longest existing single-span structure.

KEEFER, Thomas Coltrin, Canadian engineer: b. Thorold, Ontario, Nov. 4, 1821; d. Ottawa, Jan. 7, 1915. He was a brother of Samuel Keefer (q.v.). He was educated at Upper Canada College (Toronto), began practice as a civil engineer in 1838, and in 1850 was appointed by the government to survey the rapids of the St. Lawrence and explore the region between the headwaters of the St. John and the St. Lawrence. In 1851 he became engineer-in-charge of the Toronto and Kingston section of the Grand Trunk Railway, and made surveys at Montreal for the Victoria Bridge across the St. Lawrence. He wrote *The Philosophy of Railways* (1849) and an essay on *The Influence of the Canals of Canada on Her Agriculture* (1850). President of the Royal Society of Canada in 1898, he was a leading hydraulics engineer.

KEELER, James Edward, American astronomer: b. La Salle, Ill., Sept. 10, 1857; d. San Francisco, Calif., Aug. 12, 1900. After graduating Johns Hopkins University in 1881 he accompanied the famous expedition of Samuel Pierpont Langley (q.v.) to the top of Mount Whitney, California. He was on the staff of the Allegheny Observatory until 1883, and in 1884, after a year of study in Germany, he was appointed assistant at Lick C

rvatory (1886), and later astronomer there (1888). In 1891–1898 he was active at the Allegheny Observatory as its director and professor of astrophysics in the Western University of Pennsylvania, and from 1898 until his death as director of the Lick Observatory. His spectroscopic work included valuable studies of the nebula in Orion and of Saturn's rings.

KEELEY, kē'li, Leslie E., American physician: b. St. Lawrence County, N. Y., in 1842; d. Los Angeles, Calif., Feb. 21, 1900. He was graduated at Rush Medical College (Chicago) in 1863, was a surgeon in the federal army during the Civil War, practiced medicine at Dwight, Ill., there opened (1880) a sanitarium for the cure of alcoholics and drug addicts. His system was based on a secret compound said by him to contain bichloride of gold, and hence called the "gold" cure. He published *The Morphine Eater* (1881).

KEELEY, Mary Anne Goward, English comic actress: b. Ipswich, Nov. 27, 1805 or 1806; d. London, March 12, 1899. She made her first appearance in Dublin in 1823; and two years later she went to London where she joined a Covent Garden company and married one of its prominent members, Robert Keeley (q.v.) in 1829. She made a great reputation for herself in important parts like Nerissa (in *The Merchant of Venice*), Smike (in *Nicholas Nickleby*), Sairy Gamp and Betty Martin.

In company with her husband she toured the United States (1836–1837) where she was everywhere received enthusiastically. On their return to England, the Keeleys took over the Lyceum Theatre in London, which they managed very successfully from 1844 to 1847. After 12 years' further success Mrs. Keeley retired from the stage at the age of 53, a retirement which was timed to last 40 years.

consult Goodman, Walters, *The Keeleys on the Stage* (London 1895).

KEELEY, Robert, English comic actor: b. London, 1793; d. London, 1869. After playing comic parts throughout the interior of England he reached the London stage in 1818. He lost at once became a favorite in important comic roles like Touchstone Jimmy Green (in *My Lady's Man*), Mr. Bounceable (in *What Have I Done?*), Peter Pall Mall (in *The Prisoner of War*) and Sir Andrew Aguecheek. He married Mary Anne Goward in 1829. (See KEELEY, MARY ANNE GOWARD.)

KEELHAULING, the dragging of an offender in the navy underneath the ship across the keel from side to side. This punishment was at one time common in the British and other navies; and was greatly dreaded by seamen and marines.

KEELING ISLANDS. See Cocos.

KEELSON, or KELSON, kīl'sūn, a line of timbers on the middle of the floor, timbers of ship over the keel. They are joined and bolted together, and, by means of long bolts, they help to bind the floor-timbers to the keel. In iron vessels a combination of steel or iron plates takes the place of the timber keelson of the wooden ship. The word which was also formerly written "kilson" and "kelsine" appears,

in one form or another, in all the Norse and Germanic tongues.

KEELUNG, kē-lōōng', or KIRUN, kē-rōōn, city, is the principal port and naval base of the island of Formosa (Taiwan). It has an excellent harbor, a large chemical industry producing phosphates and fertilizers, and exports tea, camphor, and sugar. Gold, sulphur, and copper mines are nearby. It has railway and highway connection with Taihoku (Taipei), the capital. Pop. (1950) 145,240.

KEELY, John Ernest Worrell, American adventurer: b. Philadelphia, Pa., Sept. 3, 1837; d. there, Nov. 18, 1898. In early life he was a carpenter. Prior to 1872 he became interested in music, and afterward claimed that the tuning-fork had suggested to him a new motive power. In 1874 a stock company was formed for the purpose of supplying funds for the perfection and promotion of the alleged discovery. Keely built and destroyed many models, gave exhibitions at which numerous remarkable and unexplained effects were produced, but never attained any important result. Upon his death it was found that the so-called Keely motor was operated by an invisible compressed-air apparatus, and that the entire scheme was fraudulent.

KEEN, William Williams, American surgeon: b. Philadelphia, Jan. 19, 1837; d. there, June 7, 1932. He was graduated at Brown University in 1859, and from Jefferson Medical College in 1862 and served as an acting assistant surgeon in the federal army during part of the American Civil War. For two years he studied in Europe, returning to Philadelphia in 1866 where he established his practice and also lectured on anatomical subjects at Jefferson Medical College. He was in charge of the Philadelphia School of Anatomy during 1866–1875, was professor of artistic anatomy at the Pennsylvania Academy of Fine Arts during 1876–1879, professor of surgery at the Women's Medical College during 1884–1889, and thereafter until his retirement in 1907, professor of surgery at Jefferson Medical College.

A specialist in the surgery of the brain and nervous system, Dr. Keen was among the first in the United States to perform successfully new and difficult operations in this field.

During World War I he was a major in the Medical Reserve Corps and was a member of the National Research Council.

In 1912, on the 50th anniversary of his graduation, the Jefferson Medical College gave him the honorary degree of Sc.D. He also received the degree of LL.D. from Brown University (1891), Northwestern and Toronto universities (1903), the University of Edinburgh (1905), Yale University (1906), University of Saint Andrews (1911); an honorary M.D. from University of Greifswald (1906) and honorary Ph.D. from the University of Upsala (1907). He was the senior member of the Corporation of Brown University, having been elected in 1873. He was elected president of the American Surgical Association in 1898; of the American Medical Association in 1899; of the College of Physicians of Philadelphia in 1900; of the Congress of American Physicians and Surgeons in 1903 and of the International Congress of Surgery for the session of 1917, and was president of the American Philo-

sophical Society after 1907. He was also foreign corresponding member of the Surgical Society of Paris, the Belgian Surgical Society, and the Clinical Society of London. He was an honorary fellow of the Royal College of Surgeons of England and the Royal College of Surgeons of Edinburgh, and of surgical societies in Germany, and Italy, as well as a fellow of the American Academy of Arts and Sciences and the American College of Surgeons.

He is the author of *Surgical Complications and Sequels of Typhoid Fever* (1898); *Animal Experimentation and Medical Progress* (1914); *Medical Research and Human Welfare* (1917); *The Treatment of War Wounds* (1917). He edited Gray's *Anatomy* (1887); *American Text Book of Surgery* (1892); and *Keen's System of Surgery* (1906-1921).

KEENE, Charles Samuel, English humorous artist: b. Hornsey, England, Aug. 10, 1823; d. London, Jan. 4, 1891. He began to study architecture only to give it up for the study of wood engraving. Gaining some reputation on the *Illustrated London News*, he attracted the attention of *Punch*, the staff of which he joined in 1851 and continued on it until his death. Aside from his humorous work in *Punch*, he illustrated the works of such authors as Charles Reade, George Meredith, George Eliot, Douglas Jerrold, and William M. Thackeray, sometimes in volume but more often in the serialized version in a periodical. His engravings may be found in the compilation *Four Hundred Pictures of Our People* (1888).

KEENE, Laura, American actress and manager: b. England, 1826?; d. Montclair, N. J., Nov. 4, 1873. Her real name is unknown but it was as Laura Keene that she became famous in England in the role of Pauline in *The Lady of Lyons*, before coming to the United States in 1852 where she made her home the remainder of her life. After touring the Pacific coast and Australia, she opened *Laura Keene's Varieties* in New York, and from 1856 to 1863 she was the lessee and manager of Laura Keene's Theatre (later the Olympic). Miss Keene's airy and lilting humor assured a successful run of any play, and her abilities as a director attracted much new talent to her theater, in spite of current competition. The most noted play produced by her was *Our American Cousin*, brought out in 1858 with Edward A. Sothern and Joseph Jefferson in the cast. While he was witnessing this play at Ford's Theatre in Washington, D.C., President Abraham Lincoln was assassinated.

KEENE, city, New Hampshire and Cheshire County seat, on the Ashuelot River, 49 miles northwest of Nashua, served by the Boston and Maine Railroad and a municipal airport. Keene is a busy retail and wholesale market center in an agricultural and vacation resort section. There are manufactures of wooden textiles, chairs, shoes, machinery, boxes, wood heels, novelties, metal polish, office supplies, and celluloid novelties; and mica and feldspar are quarried in the vicinity.

The city is noted for the number of its beautiful homes and for its scenic background. Mount Monadnock is 10 miles to the east, and Keene's winter sports facilities include toboggan and ski slides that rank among the longest and safest in the East. Keene Teachers College, a coeduca-

tional school founded in 1909 and one of the largest in New England, is here. Upper Ashuelot was founded on the site in 1736, but the first permanent settlement was in 1750; incorporation as the town of Keene followed in 1753, and the city charter dates from 1873. Government is by city manager. Pop. (1950) 5,638.

KEENER, William Albert, American jurist and educator: b. Augusta, Ga., March 10, 1856; d. New York City, April 22, 1913. Graduated from Harvard Law School in 1877 he practised law in New York city, became a justice of the Supreme Court of the State of New York and professor of law at Harvard (1883-1890) and at Columbia University (1890-1902) and Dean of the Law School (1891-1901). Among his law writings are *Treatise on the Law of Quasi-Contracts* (1893); *A Seduction of Cases on the Law of Private Corporations* (1899).

KEEP, Robert Porter, American educator b. Farmington, Conn., April 26, 1844; d. there, June 3, 1904. Graduating from Yale University in 1865, he became a Greek tutor there two years later, a position he resigned to become United States consul at the Piræus, Greece (1869-1871). On his return home he continued teaching, particularly at the Free Academy, Norwich, Conn., where he taught from 1885 to 1902.

Among his published works are G. G. P. Autenrieth's *Homeric Dictionary for Schools and Colleges* (translation 1877); *Stories from Herodotus* (1879); *Uses of the Moods in Greek and Latin* (1879); and *Greek Lessons* (1885).

KEEP, William John, American inventor and manufacturer: b. Oberlin, Ohio, June 3, 1842; d. Sept. 30, 1918. Graduated as a civil engineer from Union College (1865), he began the manufacture of stoves to which he later added that of testing machines. After many experiments he discovered the relation existing between the shrinkage and the chemical composition of cast iron (1885); he contributed to many technical journals on that subject. He published *Cast Iron* (1902).

KEEWATIN, kê-wă't'n, district, Canada, an administrative division of the Northwest Territories, lying west and north of Hudson Bay and extending north to the Arctic Ocean. Its original area was 516,571 square miles and it was created in 1876. The northern part of Lake Winnipeg and its outlet, Nelson River, were once in Keewatin. The main lakes, almost all of which belong in the basin of Hudson Bay, are Nulturn, Dubawnt, Baker, Maguse, Aberdeen, Garrv, Pelly, and Kaminuriak, and the rivers draining the district are the Back, Dubawnt, Kazan, and Thebon. A great part of the district consists of the Barren Grounds, level, treeless, Arctic plains, which support a few Eskimos and fur trappers.

The district has undergone division and reorganization at different times, with parts of it being added to the provinces of Ontario and Manitoba, and is now limited southwards at 60° N. latitude by Mackenzie District, northwards by Franklin District. Its area, including water bodies, now is 228,160 square miles.

KEEWATIN, kê-wă't'n, the earliest epoch of the Archaeozoic Era, and the series of rocks then formed, consequently the oldest known rocks

The name is derived from the territory of Keewatin in Canada. In the type region around Lake Superior, the Keewatin rocks consist mostly of much metamorphosed lava flows interbedded with small amounts of sedimentary rocks. The whole series is usually much metamorphosed and is commonly spoken of as the greenstone series. The iron ores of the Vermilion Range in Minnesota are of Keewatin age.

KEFIR, or **KEPHIR**, kē'fēr (Turkish *kaif*, delight), a native drink of the people of the Caucasus. It is made from fermented milk, the fermentation being caused by kefir grains, which require from two to three days to complete their action. This fermentation, when properly effected, leaves the kefir effervescent.

KEI, **KAI**, kī, or **KE**, kē, Netherlands Indies, a group of islands in the Banda Zee, southeast of Ceram and west of the Aru Islands. The largest island is mountainous, and all of the group are well wooded and fertile. The islands have an aggregate area of 572 square miles. The inhabitants, of Papuan stock with an admixture of Malay blood, total about 36,000.

KEIDEL, **George Charles**, American librarian: b. Catonsville, Md., June 16, 1868; d. Washington, D. C., April 12, 1942. Graduating at Johns Hopkins University in 1889 he continued studies there in French, Italian, and Latin, securing the Romance fellowship and in 1895 being awarded his doctorate in philosophy. In the fall of 1895 he joined the faculty of his alma mater as assistant in Romance languages. He became an instructor in 1897, and the next year was appointed associate professor of Romance languages. At Johns Hopkins he came under the direct personal influence of Aaron Marshall Elliott (1844–1910), the Nestor of the Romance scholars of the United States. For 20 years he made investigations in comparative literature in connection with a critical edition of the *Fables* of Marie de France upon which the members of the Romance seminary were engaged. In 1911 he resigned his university appointment to become the foreign language expert of the copyright office in the Library of Congress at Washington. He was a contributor to the *ENCYCLOPEDIA AMERICANA*, and among his books were *Manual of Aesopic Fable Literature* (1896); *Earliest German Newspapers of Baltimore* (1927); *Early Maryland Newspapers* (1933).

KEIFER, kī'fēr, **Joseph Warren**, American lawyer, soldier, and politician: b. Bethel, Ohio, Jan. 30, 1836; d. Springfield, Ohio, April 22, 1932. He was educated at Antioch College, and in 1856 began to study law at Springfield. In 1858 he was admitted to the bar, but at outbreak of the American Civil War he was commissioned major of the 3d Ohio Infantry. He was brevetted brigadier general of volunteers in 1864 for "gallant and meritorious services at the battles of Opequan, Fisher's Hill, and Middletown, Va.," and the next year he became major general; he had fought in a total of 27 battles, and was wounded four times. After the war he resumed law practice in Springfield and entered politics as a Republican, serving in the Ohio State Senate during 1868–1869. In

1876 he was elected to the United States Congress; he served until 1885, being Speaker in 1881–1883. With outbreak of the Spanish-American War in 1898 he was commissioned a major general of volunteers, and for a time he commanded the 7th Corps, encamped near Havana. From 1905 to 1911 he again served in Congress. He was president of the Laconia National Bank of Springfield from 1873 to 1927. He wrote *Slavery and Four Years of War* (1900).

KEIGHLEY, kē'li, England, a municipal borough of the West Riding of Yorkshire, 17 miles northwest of Leeds. It is connected with both Liverpool and Hull by the Leeds and Liverpool Canal. Manufactures include woollens, paper, tools, and machinery. Pop. (est.) 52,450.

KEIJO. See **SEOUL**.

KEITEL, kī'tēl, **Wilhelm**, German army officer: b. Helmscherode, near Brunswick, Sept. 22, 1882; d. Nurnberg (Nuremberg), Oct. 16, 1946. Entering the German Army in 1901, he was a captain of artillery during World War I, and became colonel in 1931. After Adolf Hitler acquired power in 1933 Keitel became one of his outstanding political generals. He was promoted major general in 1934, and the next year, with the rank of lieutenant general, he was appointed chief of the administration department of the ministry of war. In 1938 Hitler assumed personal and direct command of Germany's armed forces, exercising his authority through "a supreme command of the armed forces headed by Gen. Wilhelm Keitel." Following outbreak of World War II the following year Keitel became a member of the Cabinet council for the defense of the Reich. In June 1940, with the rank of field marshal, he signed in Compiègne Forest the armistice with the defeated French, and in 1941 he was given command of the German armies invading Russia; but on May 9, 1945, at the Berlin headquarters of Russian Marshal Grigori Konstantinovich Zhukov, he formally ratified Germany's unconditional surrender. With other German leaders, later in the year he was brought to trial at Nurnberg before the International War Crimes Tribunal as a major war criminal. On Oct. 1, 1946 he was convicted of conspiring to wage aggressive war; crimes against the peace; crimes violating the laws of war; and crimes against humanity. He had assisted in planning the annexation of Austria, the occupation of Czechoslovakia, and the invasion of Poland, Denmark, Norway, Belgium, the Netherlands, Greece, Yugoslavia, and Russia. He signed orders for the execution of paratroops, commandos, and Soviet prisoners of war, and for the killing of 50 to 100 Russians for each German soldier; and he ordered that civilians suspected of offenses against German troops should be shot without trial, and that Russian prisoners of war should be used in German industry. He was hanged.

KEITH, kēth, **Arthur**, American geologist: b. St. Louis, Mo., Sept. 30, 1864; d. Alexandria, Va., Feb. 7, 1944. After securing his master's degree at Harvard in 1887 he joined the United States Geological Survey. From 1913 to 1921 he was in charge of areal geology east of the 100th meridian; he investigated the structure, stratigraphy, and earthquakes of the Appalachian Mountains.

KEITH, Sir Arthur, British anthropologist: b. Old Machar, Aberdeen, Feb. 5, 1866. He studied medicine at the universities of Aberdeen, London, and Leipzig. From 1917 to 1923 he was Fullerton professor of physiology at the Royal Institution. He served as president of the Royal Anthropological Institute (1913-1914) and of the British Association (1927), and was rector of the University of Aberdeen (1930-1933). In 1921 he was knighted for his work in the field of anthropology, notably in the reconstruction of prehistoric man from fragments or fossil remains. His works included *Introduction to the Study of Anthropoid Apes* (1896); *Human Embryology and Morphology* (1901); *Ancient Types of Man* (1911); *The Human Body* (1912); *Antiquity of Man*, 2d ed. (1925); *Religion of a Darwinist* (1925); *Concerning Man's Origin* (1927); *New Discoveries Relating to the Antiquity of Man* (1931); *Darwinism and Its Critics* (1935); with T. D. McCown, *Stone-age of Mount Carmel Human Fossil Remains* (1939).

KEITH, Benjamin Franklin, American theatrical manager: b. Hillsboro Bridge, N. H., Jan. 26, 1846; d. Palm Beach, Fla., March 26, 1914. In 1883, after managing a circus, he joined with Edward F. Albee (1857-1930) in organizing and directing the Keith-Albee chain of vaudeville theaters. With Frederick Francis Proctor (1851?-1929) he formed in 1906 the Keith and Proctor Amusement Company; after the death of the founders this was merged into the Radio-Keith-Orpheum (RKO) circuit. Keith was credited with originating the continuous performance program.

KEITH, George, Scottish missionary in America: b. Peterhead, Aberdeenshire, about 1638; d. Edhurton, Sussex, England, March 27, 1716. Reared as a Presbyterian, he became a Quaker in 1662 and in 1677 went to the Netherlands with William Penn and other leaders. In 1684 he sailed for New Jersey to become its surveyor general, and five years later he was made principal of Penn's Quaker school in Philadelphia, Pa. He was denounced by Penn in 1692, when he formed a sect termed Christian (or Baptist) Quakers, known also as Keithians. In 1700, however, he entered the Church of England, and between 1702 and 1704 he was a missionary in Pennsylvania and New Jersey for the Society for Propagation of the Gospel in Foreign Parts. Returning to England in 1705, he became rector of Edhurton.

KEITH, George, 10TH EARL MARISCHAL, Scottish Jacobite: b. 1693?; d. 1778. After the failure of the Jacobite rising of 1715 he fled to the European continent, as did his brother, James Francis Edward Keith (q.v.). He was a leader of the small Spanish force which landed in Scotland in 1719 and was defeated at Glen-shiel. Subsequently he entered the service of Frederick the Great of Prussia, who appointed him to a diplomatic mission in Paris (1751) and governor of Neuchâtel (1752). In 1758 he became Prussian ambassador to Spain, and although George II of Great Britain pardoned him the next year he continued to serve Frederick.

KEITH, George Elphinstone, VISCOUNT.

See ELPHINSTONE, GEORGE KEITH, VISCOUNT KEITH.

KEITH, James Francis Edward (known as MARSHAL KEITH), Scottish soldier in Prussian service: b. Inverurie, Aberdeenshire, June 14, 1696; d. Hochkirch, Saxony, Oct. 14, 1758. With his brother, George Keith, 10th Earl Marischal (q.v.), he fought in the Jacobite rising of 1715 and the Spanish expedition of 1719, and following failure of the latter he became a colonel in the Spanish Army. During 1726 he participated in the abortive Spanish siege of Gibraltar, but two years later transferred his services to Russia. As a major general he fought well against the Turks (1737) and Swedes (1741-1743), only to fall into disfavor at the Russian court. In 1747 Frederick the Great appointed him field marshal in the army of Prussia, and two years later he became governor of Berlin. He fought brilliantly in the early years of the Seven Years' War, meeting his death at the battle of Hochkirch.

KEITH, Minor Cooper, American railroad builder: b. Brooklyn, N. Y., Jan. 19, 1848; d. West Islip, N. Y., June 14, 1929. Between 1874 and 1890 he constructed a railroad from Limon, chief port of Costa Rica in the Caribbean, to San José, the capital. After establishing a shipping company to transport bananas from Limon to the United States he extended his interests to banana plantations in Panama and Colombia, and in 1899 he merged his properties with those of the Boston Fruit Company to constitute the United Fruit Company; this concern became the dominant factor in the banana trade of Central America. In 1912 he established the International Railways of Central America, embarking upon a program of railroad construction which envisaged a line to the Panama Canal. He bequeathed to the American Museum of Natural History, New York, his notable collection of Aztec gold images and ornaments.

KEITH, Sir William, British colonial governor: b. Peterhead, Scotland, 1680; d. London, Nov. 18, 1749. Although, as a Jacobite supporter, much of his early life had been spent as an exile in France, Queen Anne appointed him in 1714 surveyor general of customs for the southern colonies in North America. In 1717 he became lieutenant governor of Pennsylvania and Delaware, but he lost the post in 1726 for taking the part of the Assembly in its dispute with the proprietors and council. He returned to England in 1728, and two years later he was instrumental in negotiation of a treaty with visiting Cherokee chiefs. In 1720 he had inherited from his father an estate encumbered with debt, and because he was unable to liquidate the liability he was imprisoned at the Old Bailey in 1734, remaining there till his death.

KEKULE VON STRADONITZ, kâ'kôo-lâ fôn shtrâ'dô-nits, **Friedrich August**, German chemist: b. Darmstadt, Sept. 7, 1829; d. Bonn, June 13, 1896. He was professor of chemistry at Ghent from 1858 to 1865, and thereafter he held a like chair at Bonn. He established the valence theory and originated the ring, or closed chain, theory of the constitution of the benzene molecule, applying this knowledge to the

tudy of numerous compounds. His work in synthetic dyes gave Germany a start in their manufacture which she held until World War I deprived her of it. Kekulé wrote much on chemical subjects.

KEKULE VON STRADONITZ, Reinhard, German writer on archaeological subjects: b. Darmstadt, 1839; d. Berlin, 1911. Educated at Göttingen and Berlin, he became professor of archaeology at Bonn, and later at Berlin. Among his published works, most of which are the result of personal investigation, are *Die antiken Terrakotten* (1880–1884); *Das Leben Friedrich Gottlieb Wilckers* (1880); *A History of Greek Art* (1890).

KELANTAN, kě-lăn'tăn, state, Federation of Malaya, on the east side of the Malay Peninsula. It is bounded on the north by Thailand, and northeast by the South China Sea, on the east by Trengganu, on the south by Pahang, and on the west by Perak. The area is 5,750 square miles, and the population in 1948 numbered 444,743. The greatest length, from north to south, is 115 miles, and the maximum breadth is 60 miles. The southern part of the state is hilly, but the northern area is level and fertile. The principal river is the Kelantan, 150 miles in length, which rises on the southwest border and flows in a northeasterly direction to empty into the South China Sea; its numerous tributaries include the Galas, Lebir, and Pergau. Kota Bahru (pop. 22,736), the capital, is on the Kelantan River six miles from its mouth; its seaport is Tumpat. The state is traversed by the east coast branch of the Malayan Railway; about half of the line within Kelantan was removed during the Japanese occupation in World War II. Large quantities of rice are grown, and stock raising is of importance; there are several rubber plantations, and large numbers of coconut and betel palms. Minerals include tin, gold, and galena, but mining is only on a small scale. Kelantan was a tributary of the Sumatran kingdom of Palembang in the 13th century, and in the 14th it was subject to the kingdom of Malacca. In the 19th century it became a suzerain of Siam, and this status continued until 1909, when it came under British protection. As an unfederated state it had a large measure of autonomy. In 1946 it became one of the states of the Malayan Union; and in 1948 the latter was reorganized as the Federation of Malaya.

KELAT. See **KALAT**.

KELCEY, Herbert Lamb, Anglo-American actor: b. London, England, Oct. 10, 1856; d. July 10, 1917. He made his first stage appearance at Brighton in 1877, and three years later he was in the cast of *Bow Bells* in London. In 1882 he went to the United States, where he continued to make his home. In New York he was connected with Wallack's Theatre and Daniel Frohman's Lyceum company. He played important parts in companies traveling throughout the United States.

KÉLER-BÉLA, kă'lěr-bă'lă (pseud. of ALBERT VON KÉLER), Hungarian composer and violinist: b. Bartfeld, Hungary, Feb. 13, 1820; d. Wiesbaden, Germany, Nov. 20, 1882. Educated at Vienna, he became leader of the Gung'l Band in

Berlin in 1854. After several years' experience in the orchestra of the Theater an der Wien, in Vienna, in 1867 he became conductor of the Kur Orchestra, a position he held until 1872. He was very popular as a composer of orchestra and dance music.

KELLAND, Clarence Budington, American novelist and short-story writer: b. Portland, Mich., July 11, 1881. Soon after graduating at the Detroit College of Law in 1902 he adopted a literary career. From 1907 to 1915 he edited the *American Boy*, and he scored a great success with his first book, *Mark Tidd* (1913). Following World War I he became one of the most popular contributors of short stories to such periodicals as the *Saturday Evening Post*, the *American Magazine*, and *Cosmopolitan*. Perhaps the best known of the characters he created was "Scattergood Baines." A collection of his stories under that title was published in 1921. *Opera Hat*, one of his finest short stories, was made into a highly successful motion picture entitled *Mr. Deeds Goes to Town* (1936). Later volumes by him included *Star Rising* (1938); *Skin Deep* (1939); *The Valley of the Rising Sun* (1940); *Silver Spoon* (1941); *Sugarfoot* (1942); *Archibald the Great* (1943).

KELLER, Albert von, German painter: b. Gais, Switzerland, April 27, 1844; d. Zürich, Switzerland, July 14, 1920. For several years he painted in Italy, France, Great Britain, and the Netherlands. He became a professor at the Munich Academy of Art, and served as president of the Munich Secession Society. In 1898 he was raised to the rank of nobility. He excelled as a portraitist and as a painter of Biblical and historical subjects. The Munich New Pinakothek acquired his *Chopin*; and the Berlin National Gallery, his *Portrait Painter*.

KELLER, Arthur Ignatius, American illustrator and painter: b. New York City, July 4, 1867; d. there, Dec. 2, 1924. His art studies were made at the National Academy, New York City, and in Munich. From 1890 he maintained a studio in his native city. He won a reputation as one of the finest American illustrators. Among the books which he illustrated were *The Virginian* (Owen Wister), *Kate Bonnet* (Frank Richard Stockton), and *The Right of Way* (Gilbert Parker). He also illustrated the works of Bret Harte, Henry Wadsworth Longfellow, Washington Irving, Silas Weir Mitchell, and Francis Hopkinson Smith. Besides his work as an illustrator, he was also a skillful oil and water-color artist. Many prominent galleries in the United States and elsewhere acquired examples of his work.

KELLER, or **KELLER VOM STEIN-BOCK**, fôm shtin'bök, Friedrich Ludwig, Swiss-German jurist and politician: b. Zürich, Oct. 17, 1799; d. Berlin, Sept. 11, 1860. He was educated at Berlin and Göttingen and, following his return to Zürich in 1825, he was appointed professor of civil law in the university. In 1831 he became president of the Swiss superior court. Turning to politics, he was elected to the grand council in 1830, and he served as president of that body in 1832 and again in 1834. He was one of the leaders of the Liberal Radical Party, but for political reasons he was forced to flee from Switzerland in 1839. Going back to Germany, from 1843 to 1847 he was a professor in the University of Halle. He then

taught at the University of Berlin and became active in politics as a Conservative in the Prussian government. A specialist in Roman law, he also was a champion of the historical approach to legal study.

KELLER, Gottfried, German-Swiss short-story writer and novelist: b. Zurich, Switzerland, July 19, 1819; d. there, July 15, 1890. The son of a lathe-worker who died when Keller was only five years old, he lived a carefree life in Zurich under his mother's indulgent surveillance until, at the age of 15, he was expelled from school for a boyish prank, which hardly deserved the severity of the punishment. Forced by his mother's poverty to find an occupation, he apprenticed himself to a landscape painter in 1835 and in 1840 went to Munich to study painting. He soon found he had little talent in this direction and returned to Zurich (1842), where he associated with German political refugees and began to find himself as a writer, publishing a volume of poetry (*Gedichten*) in 1846.

With the aid of a scholarship from his native canton, he studied from 1848 to 1850 in Heidelberg, where the philosophy of Ludwig Feuerbach profoundly influenced his thinking. Later, in Berlin (1850-1855), he wrote the first version of what was to become his best-known work, *Der Grüne Heinrich* (1854). This fictional autobiography of his youthful experiences was later expanded and revised (1879) in Zurich whence he had returned in 1855—after he had devoted a number of years to the civil duties of clerk of his canton (1861-1876).

Der Grüne Heinrich made little impression at first, but after he changed the tragic ending to a more optimistic one, it gained wide acclaim. As an educational novel (*Bildungsroman*) it cannot be compared with Goethe's *Wilhelm Meister*, and it falls short of Keller's shorter *novellen*, as do his poems, his dramatic attempts, and another novel, *Martin Salander* (1886), which highlights the conflict between democratic ideals and European culture.

Keller's penetrating descriptive powers, his characterizations, and his humor find their highest expression in his volumes of short stories (*novellen*), which include *Die Leute von Seldwyla* (1856); *Sieben Legenden* (1872); *Zürcher Novellen* (1878); and *Das Sinngedicht* (1882), a series of stories within a story (*Rahmenerzählung*), which marked the summit of Keller's narrative technique. Set mostly in a middle-class society, these stories unfold a great diversity of characters and scenes, often by caricature and exaggeration, and always with a wealth of physical description. Among the best of them are *Die drei gerechten Kammacher*, a satire on bourgeois morality; and *Romeo und Julia auf dem Dorfe*, Shakespeare's plot in a Swiss village setting (both from *Die Leute von Seldwyla*).

Most of Keller's works reflect a warm Christian humanism, founded on the political liberalism he imbibed as a young man and the materialistic philosophy of Feuerbach, whose atheism, however, failed to alter the faith he inherited from his mother. His philosophical outlook was based on the need he saw for converting men's religious drives into practical ethics, and inferred a moral law underlying all of nature.

Bibliography.—Consult the critical edition of Keller's works by Jonas Frankel and Carl Helbling, 24 vols. (Bern and Leipzig 1926-49) and his *Gesammelte Briefe*, ed. by Carl Helbling (Bern 1950-53). For biography, bibliog-

raphy, and commentary, consult Bächtold, Jakob, *Kellers Leben. Seine Briefe und Tagebücher*, 3 vols. (1891-97), new ed. by Emil Ermatinger (Stuttgart 1916-19), Hübner, Ricarda, *Gottfried Keller* (Leipzig 1904); Zippertmann, C. C., *Keller-Bibliographie 1844-1934* (Zurich 1935); Lukacs, G., *Gottfried Keller* (Berlin 1947), a Marxist interpretation; and Boeschstein, Hermann, *Gottfried Keller, Grundzüge seines Lebens und Werkes* (Bern 1948).

KELLER, Helen Adams, American author and lecturer: b. Tusculum, Ala., June 27, 1880. She was 19 months old when a severe illness, diagnosed as brain fever, deprived her of her sight and hearing. Her education, begun when she was seven, was placed in the hands of Miss Anna Mansfield Sullivan (Mrs. John A. Macy) of the Perkins Institute of the Blind. Under the care of Miss Sullivan, who came to live with her, she learned the deaf-and-dumb language by touch and learned to read by the braille system and to write, using a special typewriter. In 1890 she also learned to speak under the instruction of Miss Sarah Fuller of the Horace Mann School for the Deaf in Boston. She attended the Wright Humason School for the Deaf in New York (1894-1896) and the Cambridge School for Young Ladies (1896-1900) where Miss Sullivan was with her to all classes and repeated the lectures and discussions by touch. Accompanied by Miss Sullivan, she then attended Radcliffe College (1900-1904), where she graduated with honors. There her textbooks were printed in braille, and she wrote her examinations with her own typewriter and had special conferences with her instructors instead of taking part in recitations. She also took part as much as possible in the college social life.

Her life after graduation was not always free from financial worries. She made many lecture tours, wrote several books, made one motion picture based on her life, and even appeared on the Orpheum Circuit (vaudeville) for two years to help support herself as well as to carry out her dedicated task to stimulate public interest in the problems of the physically handicapped.

After the death of Miss Sullivan in 1936, she found a new companion in Miss Polly Thomson, who had become her secretary in 1914. Miss Keller served on the Massachusetts Commission for the Blind and inaugurated the Helen Keller Endowment Fund for the American Foundation of the Blind. After World War II she visited American veterans' hospitals and made many tours in Europe, Asia, and Africa, bringing her message of courage and hope to the handicapped everywhere. Her books include *The Story of My Life* (1903); *Optimism, an Essay* (1903); *The World I Live In* (1908); *The Song of the Stone Wall* (1910); *Out of the Dark* (1913); *My Religion* (1927); *Midstream—My Later Life* (1930); *Peace at Eventide* (1932); *Helen Keller in Scotland* (1933); *Helen Keller's Journal, 1936-1937* (1938); and *Let Us Have Faith* (1940).

KELLER, Henry George, American artist: b. Cleveland, Ohio, April 3, 1869; d. San Diego, Calif., Aug. 3, 1949. After three years of study at the Cleveland School of Art (1887-1889), he went to Germany (1890), where he studied at Karlsruhe for two years before returning to Cleveland to complete his course of study there. Later, he studied in Düsseldorf (1898) and Munich (1899-1902), where he won a silver medal at the Royal Academy. Thereafter he was a member of the faculty at the Cleveland School of

Art and traveled extensively in Spain, Mexico, and California seeking subjects for his canvases, many of which reveal a regionalism and a keen understanding of animals. His works are found in leading American museums.

KELLER, kē-lār', Jean Jacques, Franco-Swiss goldsmith and metal founder: b. Laufen, Switzerland, Dec. 17, 1635; d. Colmar, France, 1700. He was appointed commissioner of artillery by Louis XIV at the royal foundry in Paris. There, with his younger brother, JEAN BALTHASAR KELLER (b. Zurich, March 16, 1638; d. Paris, 1702), who was inspector of the foundry at the Arsenal, he cast most of the bronze statues in the gardens of Versailles, as well as the statue of Louis XIV after a model of François Girardon, which was cast in 1674 and erected in Lyon in 1715, and another of the king on horseback in the Place Vendôme, Paris (1699). The brothers also cast artillery, but their cannon, although artistic in design, were faulty in construction and caused many accidents.

KELLER, Mathias, German-American song and hymn writer: b. Urm, Württemberg, Germany, March 20, 1813; d. Boston, Mass., Oct. 12, 1875. Educated in music in Stuttgart and Vienna, he was first violinist in the Royal Chapel (1829-1834) and then bandmaster of the Third Royal Brigade (1834-1841). In 1846 he left Vienna for America, where he was a theater musician in Philadelphia before starting a violin shop, which he called "Keller's Patent Steam Violin Manufactory." Later, in New York, he won a prize for his *American Hymn (Speed Our Republic, O Father on High)*, which was often played and was chosen especially to be played by Gilmore's band for a flag ceremony in Boston after the Civil War. Other patriotic songs by Keller were *Up with the Flag of the Stripes and the Stars* and *Our Banner's Constellation*. He also wrote *The Girls of Dear New England*; *Good Night Little Blossom*; *The King and the Miller*; *Mother, O Sing Me to Rest*; *Angels, Let Her Still Dream On*; and *Ravel Polka*. To many of his songs he supplied his own texts, and in 1874 published a *Collection of Poems*.

KELLER, Otto, German classical philologist: b. Tübingen, Germany, May 28, 1838; d. Ludwigsburg, Feb. 16, 1927. Educated at the universities of Tübingen and Bonn, he later became known for his studies of Horace, including the critical works, *Horatii Opera*, 2 vols. (1864-1870), prepared in collaboration with Alfred Holder; *Epilogomena zu Horaz*, 3 vols. (1879-1880); and *Pseudononius Scholia in Horatium Vetustiora*, 2 vols. (1902-1904). He held professorships at Freiburg (1872), Graz (1876), and Prague (1881), where he remained until his retirement (1909) on a pension. He also wrote *Lateinische Volksetymologie* (1891) and *Die Antike Tierwelt*, 2 vols. (1909-1913).

His father, ADELBERT VON KELLER (1812-1883), was a philologist and translated the works of Cervantes and Shakespeare into German.

KELLER, Paul, German novelist and short-story writer: b. Arnsdorf, Germany, July 6, 1873; d. Breslau, Aug. 20, 1932. The author of humorous and often sentimental stories laid in his native Silesia, he was also the founder (1912) and editor of the monthly periodical *Die Bergstadt*. His

works, widely read during his lifetime, display his optimistic human outlook, uncomplicated by intellectualism, and are characterized by a firm moral quality. They include *Waldwinter* (1902); *Die Heimat* (1904); *Das letzte Märchen* (1905); *Sohn der Hagar* (1909); *Ferien vom Ich* (1915); *Ulrichshof* (1929); and *Drei Brüder suchen das Glück* (1929).

KELLER, Walter, American organist and composer: b. Chicago, Ill., Feb. 23, 1873; d. there, July 7, 1940. A student of F. G. Gleason in Chicago and of P. Homeyer and C. Piutti in Leipzig, he taught at Northwestern University (1898-1904) and in 1911 became the director of the Sherwood Music School in Chicago, where he had taught since 1906. He was also organist of St. Vincent's Church (1903-1918), dean of the music department of De Paul University (1912-1920), and dean of the Illinois chapter of the American Guild of Organists (1914-1916). A frequent recitalist, he also composed a comic opera, symphonic pieces, and numerous organ and choral works.

KELLERMANN, kēl'ēr-män, Bernhard, German novelist: b. Fürth, Bavaria, March 4, 1879; d. Klein Glienicke (near Berlin), Oct. 17, 1951. He was an inveterate traveler, and many of his works drew their setting from his knowledge of other lands than his own. He lived in various cities in Europe before World War I, episodes of which he recorded in two journalistic works, *Der Krieg im Westen* (1915) and *Der Krieg im Argonnenvald* (1916). Following World War II he took part in the founding of the Cultural League in the eastern zone of Berlin (Kulturbunde zur demokratischen Erneuerung Deutschlands), of which he was vice president at the time of his death, having been awarded a prize by the Communist government the previous year.

His most famous novel was *Der Tunnel* (1913), published in English as *The Tunnel* in 1914. Among his numerous other works are *Yester und Li* (1904); *Der Neunte November* (1920); *Die Stadt Anatol* (1932); *Das blaue Band* (1938); *Wendlandts Heimkehr* (1939); and *Totentanz* (1948).

KELLERMANN, kē-l'ēr-män', François Christophe, Duc de VALMY (originally GEORG MICHAEL KELLERMANN), French marshal: b. Wolfsbuchweiler-an-der-Tauber, Württemberg, Germany, May 30, 1735; d. Paris, France, Sept. 23, 1820. As a young man he took part in the campaigns of the Seven Years' War and later became a zealous supporter of the French Revolution. In 1791 he was placed in charge of the defense of Alsace; in the following year he received the command of the army of the Moselle, with which he joined the main French forces under Gen. Charles François Dumouriez in September, and on Sept. 20, 1792 repulsed the celebrated attack of the Duke of Brunswick at Valmy.

Imprisoned briefly under the Terror (1793), he thereafter received various commands and was appointed inspector general of the Dutch army by the Directoire. He was made a senator (1799) and marshal of France and duc de Valmy (1808) by Napoleon, after whose fall he rallied to the cause of the Bourbons and was made a peer by Louis XVIII (1814).

His son, FRANÇOIS ÉTIENNE DE KELLERMANN,

DUC DE VALMY (b. Metz, France, Aug. 4, 1770; d. Paris, June 2, 1835), served in his father's regiment before entering the diplomatic service in 1791. Returning to the army two years later, he again served under his father and in 1796 became Napoleon's adjutant general. In 1797 his services at Tagliamento led to his promotion to brigadier general, and at Marengo his cavalry charge won the battle and gained for him the rank of general of division. Thereafter he served at Austerlitz and in the peninsular campaign.

During the restoration he remained in the army, but rejoined Napoleon's service upon his return from Elba, and commanded a cavalry corps at the Battle of Waterloo, where he was severely wounded. After the fall of Napoleon he vigorously opposed the Bourbons until the fall of Charles in 1830. His unpublished memoirs were used by his son, FRANÇOIS CHRISTOPHE EDMOND DE KELLERMANN (1802-1868) in the preparation of *Histoire de la Campagne de 1800* (Paris 1850).

KELLEY, Edgar Stillman, American composer: b. Sparta, Wis., April 14, 1857; d. New York, N. Y., Nov. 12, 1944. A student of F. W. Merriam (1870-1874) and then Clarence Eddy and N. Ledochowski in Chicago (1874-1876), he went to Stuttgart, where he graduated from the conservatory in 1880. Upon his return to America he held several church appointments and for a brief period was a conductor of a comic operetta company touring the eastern states (1890). Later he taught in San Francisco where he became music critic of the *Examiner* (1893-1895).

In 1896 Kelley settled in New York City, teaching in the New York College of Music, an extension of New York University. Five years later he went to Yale University as acting professor of musical theory, and from 1902 to 1910 resided in Berlin, where he taught pianoforte and composition. After his return to the United States he became professor of music at the Western College for Women in Columbus, Ohio, and professor of composition at the Cincinnati Conservatory of Music.

Kelley's best-known works are his oratorio *The Pilgrim's Progress* and the choral pieces *My Captain* (on Walt Whitman's text) and *The Sleeper* (Edgar Allan Poe). Among his other works are symphonies, orchestral suites, and the comic opera *Puritania* (first perf. Boston, 1892). He was also the author of *Chopin the Composer* (1913) and *Musical Instruments* (1925).

KELLEY, Edward, English alchemist and charlatan: b. Wrochester, England, Aug. 1, 1555; d. Prague, Bohemia, 1595. Brought up as an apothecary, he became skilled in chemistry and was said to have studied at Oxford. In London about 1580 he lost his ears in the pillory for some misdeed, undoubtedly the outgrowth of his interest in the occult sciences and the transmutation of metals. In 1582 he joined that frequent attendant on Queen Elizabeth I, Dr. John Dee, in his supernatural researches; the two of them spent several years in Europe and were received briefly in the court of the emperor, Rudolph II. He became invaluable to Dee as his "skryer" (seer), but later Kelley's profligacy led to the dissolution of their partnership. Kelley was twice imprisoned by the emperor in Prague (1589 and 1595), and the last time was killed while trying to escape. Although a charlatan he seems to have had a persuasive imagination.

KELLEY, Florence, American social worker and social reformer: b. Philadelphia, Pa., Sept. 12, 1859; d. there, Feb. 17, 1932. She was the daughter of William Darragh Kelley, a staunch opponent of slavery, to whom she owed her lifelong interest in social problems. After graduating from Cornell University, where she went at the age of sixteen as one of its first women students, she attempted to enter the University of Pennsylvania law school, but was refused admission because of her sex. Having already dedicated herself to the amelioration of the conditions of women and children in factories, she decided to study law in Zurich, Switzerland, where, under the influence of the doctrine of Karl Marx, she became a convinced socialist and translated into English Friedrich Engels' *The Conditions of the Working Classes in England in 1844* (London 1886). Before returning to America, she was married to a young Polish doctor, Lazare Wisniewski (1884), but divorced him six years later for nonsupport and gained custody of their three children.

In 1891 she went to live in Hull House (q.v.) in Chicago, where she was not only active in social advisory and field research work, but also in the campaign for the Sweatshop Act of 1893, and, after its passage, as the first chief factory inspector to serve in Illinois. While in Chicago she also found time to complete her work for the law degree at Northwestern University (1894) and to be the American editor of the *Archiv für Sozialgesetzgebung* (1897-1898). In 1899 she became secretary of the National Consumers League, which was established to correct industrial abuses by means of consumer pressure, and in the same year moved to the Henry Street Settlement in New York City, where she worked until 1924.

Although many times reviled in the United States Congress for her socialistic beliefs, she nevertheless adhered to her faith that proper legislation would prove to be the necessary check on the heedless exploitation of American workers, especially women and children—a task which subsequent labor laws did much to justify. She was the author of *Some Ethical Gains Through Legislation* (1905) and the editor of Edmond Kelly's *Twentieth Century Socialism* (1910).

Consult Goldmark, Josephine, *Impatient Crusader. Florence Kelley's Life Story* (Urbana, Ill., 1931).

KELLEY, Hall Jackson, American promoter of the Oregon Territory: b. Northwood, N. H., Feb. 24, 1790; d. Jan. 20, 1874. A graduate of Middlebury College, Vt., he taught school in Boston (1818-1823), then took up surveying, and in 1828 allied himself with the Three Rivers Manufacturing Company in Palmer, Mass., both as an investor and engineer. Having lost most of his fortune in this enterprise, he organized the American Society for Encouraging the Settlement of the Oregon Territory (incorporated 1831), which, under a barrage of journalistic criticism, was gradually dissolved, and from the only group that made the journey, headed by Nathaniel J. Wyeth, Kelley was left out.

He then left his family and headed for the west coast via New Orleans and Mexico. In California he was aided by the trader Ewing Young in reaching Fort Vancouver (1834), where, sick and discouraged, he spent one winter before making the long journey home. He spent his later

ears in poverty and blindness in the village of Three Rivers, Mass. His life-long interest in Oregon, although fanatical and impractical, contributed to some extent to arousing public interest in the eventual American occupation of the territory. In 1839 he submitted his *Memoir*, a personal account of Oregon geography, to Caleb Cushing, who included it in his report on Oregon to the 5th Congress.

KELLEY, Oliver Hudson, founder of the Grange movement; b. Boston, Mass., Jan. 7, 1826; d. Washington, D.C., Jan. 20, 1913. He was a newspaper reporter in Illinois and then a telegraph operator in Iowa before settling in Minnesota (1849), where he traded with the Indians and encouraged the settlement of the region by "advertising" in eastern newspapers. In 1864 he became a clerk in the Bureau of Agriculture, Washington, D.C., for which, in the following year, he made a survey of agricultural conditions in Minnesota. While making a similar survey in the South in 1866, he conceived the idea of a farmers' fraternal organization, and in 1867 he became the secretary of the National Grange of the Patrons of Husbandry (see GRANGE), of which he was one of the founders. The movement was slow in growing, as the farmers saw little to be benefited from such an organization. But Kelley continued to present his views to the agricultural press, stressing the political value of a united front against monopolies oppressive to the farmers, and by the time of the farm depression in the 1870's there were over 20,000 granges in the South and Middle West. Kelley resigned as secretary of the order in 1878, after he had already embarked on a land promotion scheme in Florida, whence he had moved three years earlier and where he founded the town of Carrabelle. After the termination of this venture he lived in Washington, D.C., until his death. He was the author of *Origin and Progress of the Order of the Patrons of Husbandry* (1875).

KELLEY, William Darrah, American legislator; b. Philadelphia, Pa., April 12, 1814; d. Washington, D.C., Jan. 9, 1890. The son of a watchmaker who died when he was two years old, Kelley left school when he was eleven and worked in various trades. However, he studied in his leisure time, became recognized as a lecturer and debater, and in 1838 began the study of law in Philadelphia. After his admittance to the bar (1841), he served for two years as a Philadelphia prosecutor and then as a judge of the court of common pleas. A staunch opponent of slavery, he was one of the founders of the Republican Party in 1854 and two years later ran unsuccessfully for Congress. In 1860 he was elected Congressman from the Fourth Philadelphia District and filled that office for 14 terms, endorsing all legislation for the abolition of slavery and the establishment of suffrage for the freedman.

Kelley is best known for his advocacy of high tariffs after the Civil War. He believed that the protection of American industries was necessary to their expansion and diversification, as well as to keep the country independent of England, to encourage immigration, and to keep out European cheap-labor goods. His efforts in behalf of higher duties on iron and steel were so persistent that he was nicknamed "Pig Iron." He was the father of Florence Kelley (q.v.), a

leader of the industrial reform movement in the following generation.

KELLEYS ISLAND, an island in Lake Erie, a few miles north of Sandusky, Ohio, and included in the administration of Erie County, Ohio. The village of Kelleys Island lies on the south shore and in 1950 had a population of 324. The island covers 2,888 acres, rises to an altitude of 642 feet, and has a maximum width of 7 miles and 18 miles of irregular, rock-ribbed coast.

Settled in 1833 by two brothers, Irad and Datus Kelley, the island became noted for its fruit orchards, vineyards, and later for its limestone quarries, which, along with fishing and truck gardening, represent the chief modern industries. Summer tourists are attracted to the Glacial Grooves State Park along the north shore and Inscription Rock, a flat limestone surface bearing Indian petroglyphs, on the south shore.

KELLGREN, chēl'grän, Johan Henrik, Swedish poet and critic; b. Floby, Skaraborg County, Sweden, Dec. 1, 1751; d. Stockholm, April 20, 1795. He was educated at the University of Åbo (Turku) in Finland, and had already gained recognition as a poet when he became privatdocent there in 1774. He then made his home in Stockholm (1777), where he founded, with Carl Lenngren, the *Stockholms Posten*, of which he became editor. In 1780 he became librarian to Gustavus III, in whose operatic ventures he collaborated and whose private secretary he became in 1785. In the following year, on the founding of the Swedish Academy, he was made one of its original members.

A champion of the rationalism of the European enlightenment, Kellgren engaged in a journalistic controversy with the *Sturm und Drang* poet, Thomas Thorild, beginning in 1782, and, at the onset of the French Revolution, enthusiastically supported its cause. His lyrics, which are among the most notable products of the Gustavian period in Swedish letters, are often satirical or imbued with a sensualism which was part of his creed. In 1787 he created for the readers of the *Stockholms Posten* an imaginary society, *Pro sensu communi*, whose task was to combat all forms of mysticism and occultism. Among his satirical works, the most notable are *Nyt Försök till orimnad vers; Mina löjen (My Jest)*; and *Ljusets fiender (The Enemies of Light)*. His sensualism, evident in such works as *Till Rosalie* and *Sinnenas förening (Union of the Senses)* was eventually replaced by the expression of a richer imagery and deeper feeling in the love poem *Den nya skapelsen eller Inbillningens värld* (1789), which marked the dawn of Swedish literary Romanticism. See also SWEDISH LITERATURE—Eighteenth Century.

KELLOGG, kēl'ög, Clara Louise, American opera singer; b. Sumterville, S. C., July 12, 1842; d. New Hartford, Conn., May 13, 1916. After her operatic debut (1861) as Gilda in Verdi's *Rigoletto* at the Academy of Music in New York, she sang in opera and concert, touring the United States (1868-1873) and appearing in London (debut 1867). In 1873 she organized an English opera company, with which, during the 1874-1875 season, she attempted to popularize Italian and French operas in English. Subsequently she sang with an

Italian opera company and later appeared on the concert stage. In 1887 she married her manager, Carl Strakosch, and soon after retired from professional life. She published her memoirs in 1913 under the title *Memoirs of an American Prima Donna*.

KELLOGG, Elijah, American Congregational minister and writer for the young: b. Portland, Me., May 20, 1813; d. Harpswell, Me., March 17, 1901. He was graduated from Bowdoin College in 1840, from the Andover Theological Seminary in 1843, was pastor of the Congregational church at Harpswell, Me., 1844-1855. From 1855-1867 he was pastor of the Mariners' church in Boston, Mass., and chaplain of Sailors' Home there. He was later for a time in charge of a congregation at Rockport, Mass., but soon returned to Harpswell, and there devoted himself to literary work. He published 29 juveniles, including *Good Old Times*, in *Our Young Folks* (1867) and in book form (1878); *Lion Ben* (1869); *The Young Ship-Builders of Elm Island* (1870); *The Mission of Black Rifle* (1876); *A Strong Arm and a Mother's Blessing* (1881). But he is best known for his familiar blank verse addresses, *Spartacus to the Gladiators*, *Regulus to the Carthaginians* and *Pericles to the People*.

KELLOGG, Frank Billings, American lawyer and senator: b. Potsdam, N. Y., Dec. 22, 1856; d. St. Paul, Minn., Dec. 21, 1937. He removed to Minnesota with his parents in 1865, and was admitted to the bar in 1877. He was city attorney of Rochester, Minn., for three years and county attorney of Olmstead County for five years. In 1887 he went to St. Paul, joining the law firm Davis, Kellogg and Severance. He was counsel for different railroads and mining concerns and later served as special counsel for the United States government in its cases against the Standard Oil Company, the paper trust, the Union Pacific, Southern Pacific and Harriman railroads. He was elected president of the American Bar Association in 1912 and in 1916 was elected to the United States Senate, serving until 1923. The following year he was appointed ambassador to Great Britain. On March 4, 1925, and until 1929, he was secretary of state in President Calvin Coolidge's cabinet. Under him the Tacna-Arica dispute between Chile and Peru was settled. He promoted the pact for the outlawry of war called the Kellogg-Briand Pact (q.v.) signed at Paris, Aug. 27, 1928. In 1929 he was awarded the Nobel Peace Prize. He served as a member of the Permanent Court of International Justice at The Hague, 1930-1935.

KELLOGG, George, American inventor: b. New Hartford, Conn., June 19, 1812; d. there, May 6, 1901. Among his inventions were a machine for the manufacture of jack-chain, with a capacity of a yard per minute; a dovetailer; a type-distributor.

KELLOGG, John Harvey, American physician: b. Tyrone, Mich., Feb. 26, 1852; d. Battle Creek, Mich., Dec. 14, 1943. He was a student at the Michigan State Normal School, and received his M.D. from the Bellevue Hospital Medical College in 1875; thereafter he served as superintendent and surgeon of the Battle Creek Sanatorium from 1876. He was a member of the

Michigan State Board of Health 1878-1890 and 1912-1916. He was founder and president of Battle Creek College; and invented improved apparatus for medical and surgical purposes. He wrote many technical papers, and textbooks and charts for the use of schools in addition to *The Art of Massage* (1895); *Rational Hydrotherapy* (1901; 4th ed., 1910); *The Home Book of Modern Medicine* (1906); *Neurasthenia or Nervous Exhaustion* (1914); *Autointoxication* (1918); *The Natural Diet of Man* (1923); *How to Have Good Health* (1932). See also BATTLE CREEK SANATORIUM.

KELLOGG, Martin, American clergyman and educator: b. Vernon, Conn., March 15, 1828; d. Berkeley, Calif., Aug. 26, 1903. He was graduated from Yale in 1850, from the Union Theological Seminary in 1854, was ordained as a Congregational minister and sent as a missionary to California in 1855. There he held a pastorate at Grass Valley, Nevada County, and at Shasta City. He was professor of Latin and mathematics in the College of California (1860-1869); and when the college was merged into the university held the chair of Latin and Greek in the latter institution in 1869-1876. In 1876-1894 he was professor of Latin language and literature, in 1890-1893 acting president, and in 1893-1899 seventh president of the university. He resumed teaching in 1900 as professor emeritus in Latin. He published *Ars Oratoria*, an edition of selections from Cicero and Quintilian (1872), and *The Brutus of Cicero* (1889).

KELLOGG, Paul Underwood, American editor and social worker: b. Kalamazoo, Mich., Sept. 30, 1879. He was graduated at the Kalamazoo High School, and took special courses at Columbia University 1901-1906, and at the New York School of Philanthropy in 1902. He was reporter, then city editor, on the Kalamazoo *Daily Telegraph* in 1898-1901; managing editor, associate editor and editor of *The Survey* (N. Y.) of which he has made a notable success. He was director of the Pittsburgh Survey in 1907-1908; and edited *Findings of the Pittsburgh Survey* (6 vols., 1910) for the Russell Sage Foundation. He was one of the directors of the New York City Committee on Congestion of Population, also a bureau director of the American Red Cross in France, 1917-1918, and on the Emergency Red Cross Committee in Italy, 1917; he initiated and was a member of the board of the Foreign Policy Association (1918); vice chairman of the advisory council of the President's committee on economic security (1934-1935); president of the national council on social work (1939). He is a joint author with Arthur Gleason of *British Labor and the War* (1918).

KELLOGG, Samuel Henry, American Presbyterian missionary and scholar: b. Quogue, Long Island, N. Y., Sept. 6, 1839; d. Landour, India, May 3, 1899. He was graduated at Princeton College in 1861 and at the Theological Seminary in 1864, and after being ordained to the Presbyterian ministry, went as a missionary to India, where he remained till 1877. He was professor of systematic theology in the Allegheny Theological Seminary 1877-1885, and pastor of Saint James' Square Presbyterian Church, Toronto, 1886-1892. He returned to India in 1892.

and remained there till his death. His publications include *A Grammar of the Hindi Language* (1876); *The Jews: or, Prediction and Fulfilment* (1883); *The Light of Asia and the Light of the World* (1885); *The Genesis and Growth of Religion* (1892); *A Handbook of Comparative Religion* (1899).

KELLOGG, Vernon Lyman, American entomologist and zoologist; b. Emporia, Kans., Dec. 1, 1867; d. Hartford, Conn., Aug. 8, 1937. He was graduated from the University of Kansas in 1899, and joined its faculty the following year as assistant and associate professor of entomology. He also studied at Cornell University 1891-1892, at Leipzig 1893-1894 and 1897-1898, and at Paris 1904-1905 and 1908-1909. From 1894 to 1920, when he retired, he was professor of entomology and lecturer in bionomics at Stanford University. He was assistant to the Samoan expedition of the United States Fish Commission in 1902, and was president of the Entomological Society of America in 1915.

At the invitation of Herbert C. Hoover, Dr. Kellogg served as director of the American Committee in Brussels during 1915-1916, assisting in Belgian relief work; and when Mr. Hoover became United States Food Administrator in 1917, Dr. Kellogg served as his assistant until 1919. He headed a mission to Poland and served as a special investigator in Russia for the American Relief Administration at the close of World War I. In recognition of his war services he was decorated by France, Belgium, and Poland. After the war he served as permanent secretary of the National Research Council in Washington until his retirement as secretary emeritus in 1932. He was also chairman of its division of educational relations 1919-1929, and acting director of Science Service 1929-1931.

Besides several textbooks on entomology and zoology Dr. Kellogg wrote: *American Insects* (1904); *Animal Studies*, with David Starr Jordan and Harold Heath (1905); *Evolution and Animal Life*, with D. S. Jordan (1907); *Darwinism Today* (1907); *Insect Stories* (1908); *Scientific Aspects of Luther Burbank's Work*, with D. S. Jordan (1909); *In and Out of Florence*, under the pen name Max Vernon (1910); *The Animals and Man* (1911); *Beyond War* (1912); *Economic Zoology and Entomology*, with R. W. Doane (1915); *Losses of Life in Modern Wars and Race Deterioration*, with G. Bodart (1916); *Headquarters Nights* (1917); *The Food Problem*, with A. R. Taylor (1917); *Fighting Starvation in Belgium* (1918); *Germany in the War and After* (1919); *Herbert Hoover—the Man and His Work* (1920); *Nuova, the New Bee* (1921); *Human Life as the Biologist Sees It* (1922); *Mind and Heredity* (1923); *Reading with a Purpose—Biology* (1925).

KELLOGG, William Pitt, American lawyer; b. Orwell, Vt., Dec. 8, 1830; d. Washington, D.C., Aug. 10, 1918. He was educated at the Norwich Military Institute and removed to Illinois, where he studied law. Being admitted to the bar in 1852, he began his practice at Canton. He became active in the Republican Party, was chairman of his delegation from Fulton County at the Bloomington Convention on May 29, 1856. Abraham Lincoln was chairman of the delegation from Sangamon County in the same convention. Here the Republican Party of Illinois was or-

ganized. He was a delegate to the National Convention in 1860, and one of the presidential electors in the same year, voting for Lincoln. In 1861 the president appointed him chief justice of the State of Nebraska, then a federal territory, but later granted him leave of absence that he might raise a regiment of cavalry in Illinois, of which he became colonel. He remained in the army two years, serving in the Missouri campaign with John Pope, but was compelled to resign on account of ill health. He was collector of the port at New Orleans (1865-1868). His commission as collector is dated April 13, 1865, the day before President Lincoln was assassinated. He was United States senator in 1868-1872, governor of Louisiana in 1873-1877, and a member of Congress in 1883-1885. He was a delegate at every Republican National Convention from 1876 to 1896. He was one of the 306 delegates who voted for Ulysses S. Grant in the Republican Convention of 1880. He was delegate at large from Louisiana in 1896, and after the election of President William McKinley he retired from active politics.

KELLOGG, city, Idaho, in Shoshone County, is located 75 miles east of Spokane, Washington, in the Coeur d'Alene lead, silver, and zinc mining district of the Bitterroot Mountains. It is served by the Union Pacific Railroad, and has an airport. Chief industries are mining, milling, smelting, and logging; with agricultural and fruit areas in the valleys. The city has good schools, several churches, a library, and recreational facilities. It was founded as Milo in 1893, renamed in 1894, and incorporated in 1913. Pop. (1950) 4,913.

KELLOGG-BRIAND PACT. A treaty renouncing war as an instrument of national policy, signed in Paris by the plenipotentiaries of 15 nations, on Aug. 27, 1928. Aristide Briand, French foreign minister, in a note to the United States on July 20, 1927, suggested a pact of perpetual friendship between France and the United States, to which Frank B. Kellogg, secretary of state, replied on December 29th, proposing to invite the nations of the world to join in such an agreement. It was decided to ask Great Britain, Germany, Italy, and Japan, and later the British Dominions, Belgium, and Czechoslovakia to join. On Aug. 27, 1928, 15 leading nations signed the pact, later to be joined by 48 others. It was invoked unsuccessfully in 1931 when Japan invaded Manchuria, and in 1935 when Italy invaded Ethiopia, but with some success in South America to help settle disputes between Bolivia and Paraguay, and Colombia and Peru. With the outbreak of World War II, the pact lost its force.

KELLOGG FOUNDATION, The W. K., an American philanthropic foundation with headquarters in Battle Creek, Mich., established in 1930 by Will K. Kellogg to promote the health, education, and general welfare of mankind, especially children, irrespective of race, creed, or nationality. It administers the Michigan Community Health Project, grants subsidies for national study of hospital needs and resources, directs national and international health promotion activities; subsidizes a community school service and school camps, and an educational program for school librarians and library trus-

tees. It also lends support to a cooperative program of health education given by the health and education departments of 28 states, and to a rural editorial service that provides data on rural life to state education association journals.

KELLOR, Frances, American sociologist and author: b. Columbus, Ohio, Oct. 20, 1873; d. New York City, Jan. 4, 1952. She was graduated from Cornell Law School in 1897; took undergraduate studies at the University of Chicago, 1898 and in 1904. She was secretary and treasurer of the New York State Immigration Commission, 1909; chief investigator for the New York State Bureau of Industries and Immigration, 1910–1913; member, New York Research Council, 1915; director of immigration, Transatlantic Steamship Passenger Conferences, 1922; president, American Association of Foreign Language Newspapers, 1919–1920; vice president of the Publishers' Association of American Press, in Foreign Languages, 1920; 1st vice president, Arbitration Society of America 1926–1952.

Her publications include: *Experimental Sociology* (1902); *Out of Work* (1904, 1915); *Straight America* (1915); *Immigration and the Future* (1920); *Federal Administration and the Alien* (1921); *Security Against War* (1924); *The United States and the International Court* (1925); *Arbitration in Action* (1941); *Arbitration and the Legal Profession* (1952).

KELLS, kēlz (Ceannanus Mor, meaning great residence), town, Ireland, County Meath, and on the Blackwater River, 39 miles northwest of Dublin. The town is noted for its antiquarian remains, chief of which are St. Columba's house; a round tower of the 12th century 99 feet in height; and several fine stone crosses. Conn of the Hundred Fights, an Irish king, resided there in the 2d century and a palace of Dermot, king of Ireland, existed in 544–565. In the 6th century Kells was granted to St. Columba (q.v.) but there are no remains of the monastery he built there. A bishopric founded there about 807 became a noted seat of learning, a testimonial of which exists in the famous *Book of Kells*, an illuminated manuscript copy of the Gospels in Latin and containing local records, considered one of the finest of its kind in existence. The manuscript dates from the 8th century and is in possession of Trinity College, Dublin. Pop. (1946) 2,141.

KELLY, kēl'i, Colin Purdie, American army captain and aviator: b. Madison, Fla., July 11, 1915; d. Luzon, Philippine Islands, Dec. 10, 1941. He was graduated from West Point in 1937, and commissioned as 2d lieutenant in the infantry. He became a captain in the Army Air Forces in 1940, and it was his bomber, a B-17, that with three direct hits destroyed the Japanese heavy cruiser *Haruna* off Aparri, Luzon Island, after the attack on Pearl Harbor. When his airplane was set afire by enemy fighter planes as he was returning to his home base, he ordered his crew to bail out. Six of them were saved, but Capt. Kelly died in the crash of his ship. The first United States air hero of World War II, he was posthumously awarded the Distinguished Service Cross.

KELLY, Edmond, American lawyer and

Socialist: b. Toulouse, France, May 28, 1841; d. Paris, Oct. 4, 1909. He was educated in early years in England and was graduated from Columbia University in 1870, was admitted to the bar and later studied at Cambridge University. He opened a law office in Paris, where he became known as an authority on international marriages and where he served also as counsel to the American legation. He returned to New York in 1890 and became active in municipal reform; but when his efforts to organize workingmen into good government clubs did not succeed, he resumed his law practice in Paris. In the United States again in 1905 he participated actively in socialistic propaganda and made special investigations of the tramp problem.

His writings include *Evolution and Effort and their Relation to Religion and Politics* (1895, 2d ed., 1898); *Government, or Human Evolution* 2 vols. (1900–1901); *The Unemployables* (1907); *Twentieth Century Socialism* (1910).

KELLY, Howard Atwood, American surgeon: b. Camden, N. J., Feb. 20, 1858; d. Paltmore, Md., Jan. 12, 1943. He was graduated from the University of Pennsylvania, A.B., in 1877, M.D. in 1882. He was associate professor of obstetrics, University of Pennsylvania, 1888–1889. In the latter year he joined the faculty of the newly organized medical school of Johns Hopkins University as professor of gynecology and served as such until he retired as professor emeritus in 1919. He was gynecological surgeon of Johns Hopkins Hospital 1899–1919. With Sir William Osler, and Doctors William Stewart Halstead and William H. Welch he helped to give the Medical School of Johns Hopkins University its international reputation, a fact commemorated in the famous painting by John Sanger Sargent which now hangs in Gilman Hall of the university. He founded Kensington Hospital in Philadelphia, and was a pioneer in the radium treatment of cancer. He published over 500 scientific articles, and numerous books including *Operative Gynecology* 2 vols. (1898, 1900); *Medical Gynecology* (1908, 1912); *Dictionary of American Medical Biography*, with W. L. Burrage (1928); *Electrosurgery*, with Grant Ward (1932).

KELLY, Hugh, Irish playwright and miscellaneous writer: b. Killarney, Ireland, 1739. d. London, Feb. 3, 1777. Possessed of little education and originally apprenticed to a staymaker he went to London in 1760 to embark upon a literary career. He secured employment as a newspaper and magazine worker, wrote a novel, some satiric verse and several plays. His adroitness in securing the favor of David Garrick doubtless had much to do with the success of his play *False Delicacy* produced at the Drury Lane Theatre in 1768; the play had little merit but was successful and afterward was translated into French, German, and Portuguese. It was followed by *A Word to the Wise* (1770) which was withdrawn from the Drury Lane Theatre because of factional enmity engendered by Kelly's service as newspaper writer for Lord North (Frederick North), but was successful in the provinces although of inferior quality. *Elementina* (1771, Covent Garden) was played only nine nights, but *A School for Wives* was successful on the stage and ran through five large printed editions (1774–1775). Other plays were *The*

romance of an Hour (1774), and *The Man of Reason* (1776). Kelly's success was now dwindling and he abandoned playwriting, was called to the bar from the Middle Temple in 1774 and devoted himself to the practice of law. He failed at this and died in poverty. He wrote one novel, *Memoirs of a Magdalen, or the History of Louisa Wildmay*, 2 vols. (1767).

KELLY, James Edward, American sculptor: b. New York City, July 30, 1855; d. there, May 25, 1933. He studied at the National Academy of Design, and up to 1881 was known as an illustrator of books and magazines. From that time on he successfully devoted himself to sculpture, and chose subjects from American history or treatment by his patriotic chisel; so great was his success that he won the title of "Sculptor of American History." His well-known works include *Sheridan's Ride* (1878); *Paul Revere*, a statuette (1882); *Monmouth Battle Monument*, with five illustrative panels (1883-1885); groups of the *Saratoga Monument* (1887); *Grant at Fort Donelson* (1886); *General Devlin* and the *Sixth New York Cavalry Monument* (1890), at Gettysburg; *Call to Arms*, colossal figure for the *Troy Soldiers' Monument* (1891); *Buford Monument* (1895), at Gettysburg; *Battle of Harpers Heights* (executed for the Sons of the Revolution at Columbia University, 1897); and a group monument to commemorate the defense of New Haven (1911); *Count Rochambeau* at Southington, Conn.; *Father Hecker*, founder of the Paulist Congregation; equestrian monument of Caesar Rodney, Wilmington, Del., 1923; also a bust of Thomas A. Edison (1927).

Forty generals of the Civil War, including Grant, Sherman and Sheridan, gave sittings for the sculptor. A series illustrating the leading generals and admirals of the Spanish-American War followed, witnessing to his skill and industry as a portrait sculptor.

KELLY, John, American politician: b. New York City, April 21, 1821; d. there, June 1, 1886. After a public school education, he was apprenticed to the mason's trade, in 1845 established successful business of his own, was elected alderman in 1854, in 1855-1859 was a Democratic representative from New York in the 34th and 35th Congresses, and in 1859-1862 and 1865-1867 was sheriff of New York County. In 1868 he was the candidate of the Democratic Union for mayor, but was defeated by Oakey Hall; and in 1871 assisted Charles O'Connor, Samuel J. Tilden and others in the reorganization of Tammany Hall which followed the Tweed "ring" troubles. He became comptroller of New York in 1876, but was removed in 1879 by Mayor Cooper. In 1878 he caused the city delegates to vote the Democratic State Convention of that year, and was himself nominated for governor by the bolters on an independent ticket in opposition to Robinson, the regular candidate. He received 77,566 votes, and thus caused the election of Alonzo B. Cornell, Republican. In 1885 and 1886 he was chairman of the Tammany Hall general committee. See also TAMMANY SOCIETY.

KELLY, Myra, American author and educator: b. Dublin, Ireland, Aug. 26, 1875; d. Torquay, Devonshire, Eng., March 30, 1910. She came to the United States when a child and was graduated at Teachers' College, Columbia

University, in 1899. She was a teacher in the New York public school system in 1899-1901; and in 1902-1903 she was critic teacher at Speyer School, Teachers' College. She came swiftly into prominence as a writer of short magazine fiction; her material, that of the pathetic children of the lower East Side of New York, being handled with charming sympathy and humor. She also wrote several novels.

She was the author of *Little Citizens* (1904); *The Isle of Dreams* (1907); *Wards of Liberty* (1907); *Rosnah* (1908); *Golden Season* (1909); *Her Little Ladyship* (1911).

KELLY, William, American inventor: b. Pittsburgh, Pa., Aug. 22, 1811; d. Louisville, Ky., Feb. 11, 1888. He early turned his attention to invention, engaged in the forwarding and commission business at Pittsburgh, Pa., and from 1846 in the iron business in Kentucky. In 1851 he finally perfected his process in decarbonizing iron by means of a current of air, and thus by a converter directly transforming pig-iron into steel. This method, "Kelly's air-boiling process," was the same as that patented by Sir Henry Bessemer in England in 1856 (or 1857), and Kelly asserted that Bessemer had gained knowledge of it through American workmen. Bessemer's application in the United States was refused, and the patent awarded to Kelly. Kelly's interests were safeguarded by a syndicate, and steel was first manufactured under his patents in the foundry at Wyandotte, Mich. He is said to have introduced Chinese labor into the United States.

KELLY, William, American mining engineer: b. New York, April 17, 1854; d. Oct. 1, 1937. In 1874 he was graduated at Yale University and in 1877 from the Engineering School of Columbia University. He was assistant superintendent of the Chemical Copper Company of Phoenixville, Pa., in 1879-1880; superintendent of the Kemble Coal and Iron Company of Riddlesburg, Pa., in 1881-1885; of the Glamorgan Iron Company of Lewistown, Pa., in 1885; of the Kemble Iron Company from 1886-1889; general superintendent of the Penn Iron Mining Company of Vulcan, Mich. (1889-1923).

KELLY'S FORD, Engagements at. During the American Civil War, Kelly's Ford, Virginia, on the Rappahannock River six miles above its junction with the Rapidan was the scene of several engagements between Union and Confederate forces. The first was a cavalry encounter in August 1862. Again on March 17, 1863, Gen. W. W. Averell with 2,100 Union cavalry and a six-gun battery, after a sharp action, crossed the ford, engaged Gen. Fitzhugh Lee's cavalry brigade, and was driven back. On Nov. 7, 1863, Gen. W. H. French forced a passage at the ford, while Gen. John Sedgwick crossed at the railroad bridge five miles above. Success of these actions enabled the Army of the Potomac to cross next day.

KELOID, kē'loid, (1) *in medicine*, a fibrous hyperplasia (excessive formation of tissue) of the skin appearing usually at the site of an injury. The keloid rises above the skin surface, is rounded, hard, white, sometimes pink, and has ill-defined borders. (2) *In anthropology*, the ornamental pattern of raised scars on the bodies of some Australian and African savages.

KELOWNA, kē-lō'nā, city, British Columbia, Canada, in the center of the Okanagan Valley, an extensive irrigation area lying on the east side of Okanagan Lake, and devoted largely to fruit growing, vegetable and tobacco production, and dairying. The area is served by an experimental station of the Dominion Department of Agriculture at Summerland established in 1914, and by a substation at Kelowna established in 1931. The town has canneries, sawmills, wooden box, basket, and other manufactories. Pop. (1951) 8,517.

KELP, kēlp, any of several large broad-leaved fucoid seaweeds which usually grow in large beds in the shallower portions of the ocean. Some are used commercially as fertilizer for soils and also as a source of iodine.

The name is also applied to the slag or ash obtained by burning seaweed sometimes called varec. This ash was at one time produced in large quantities by slowly charring several tons of the weed in shallow pits. The yield in ash was about five per cent of the weight of the mass burned. This crude ash contained several salts, especially carbonates and sulphates of sodium and potassium, with other substances in smaller proportions.

KELP CRAB, a large, squarish, edible crab (*Epiplatys productus*), numerous in rocky weed-covered places along the Pacific coast from Monterey to Puget Sound.

KELP GOOSE, a white plumaged goose similar to the brant and closely related to the Magellanic and other southern hemisphere species. It is native to Patagonia and Falkland Islands and is variously classified as *Chloephaga hybrida*.

KELPIE, or **KELPY**, kēl'pī, the angry spirit of the water, a Scottish mythological personage, who figures prominently in folklore. He is described as a fearful water spirit who delights in rushing out of the lake, the river or the sea to catch some poor human victim and to devour him or to drag him down to his death beneath the surface of the water. As he rushes out of his native element the water tumbles from his back with a terrible swishing noise like the roar of the angry sea. According to some stories the kelpie was so named because he lurked among the kelp or seaweed, which grows very high and tangled in many parts along the coasts of Scotland. Blown by the sea breezes and lashed by the tide at high water, it assumes fantastic forms which are pictured by the Scotch storytellers as taking the form of the kelpie himself who tradition says has, like the Grecian Cyclops, but one eye, but that more fearful than any two eyes. Other authorities claim that the word kelpie is related to the Old High German *chalp* or German *kalb* suggested by the roar which it was supposed to make when it rushed upon its victims.

KELSEY, kēl'sī, **Francis Willey**, American archaeologist: b. Ogden, N. Y., May 23, 1858; d. Ann Arbor, Mich., May 14, 1927. He was educated at the University of Rochester and in Europe; was professor of Latin, Lake Forest University, 1882-1889, and thereafter head of the Latin department at the University of Michigan. He organized the latter's archaeological expedi-

tions to the Near East. He edited numerous Latin books, and wrote others.

KELSEY, Henry, British explorer: b. London, England, 1670; d. 1729. He was apprenticed to the Hudson's Bay Company at the age of 14, and sent to Fort Nelson on Hudson Bay. In 1688 Kelsey was sent with an Indian companion to the Churchill River country to contact Indian tribes. In 1690 he was sent on a similar mission to the interior. His diary records his journey, which extended into 1691, up the Saskatchewan River and through the northern plains of Saskatchewan. He became factor and then governor of York Factory.

KELSO, kēl'sō, burgh, Scotland, on the Tweed River, 43 miles southeast of Edinburgh. Now mainly an agricultural center, Kelso has the ruins of an abbey established in 1128 by David I, and partially destroyed by the English in 1545. Pop. (1951) 4,119.

KELSO, city, Washington, Cowlitz County seat, is on federal highways, and on the Northern Pacific, Union Pacific, and Great Northern railroads. Smelt fishing, dairy farming, and lumbering are the chief industries. Kelso has council government; a public library, hospital, radio station, and an airport. Pop. (1950) 7,345.

KELSON. See **KEELSON**.

KELT, kēlt, Scottish and North of England term for a salmon that has spawned. Such salmon are also called black salmon.

KELTS. See **CELTIC PEOPLES**.

KELTIE, kēl'tī, **Sir John Scott**, Scottish geographer: b. Dundee, Scotland, March 29, 1840; d. London, Eng., Jan. 12, 1927. He was editor of the *Statesman's Year Book* from 1880, editor of the *Geographical Journal*, 1893-1915 and joint editor, 1915-1917; and wrote extensively on geographical and scientific topics in newspapers and periodicals. He was a member of geographical societies all over the world, was the recipient of numerous honors and honorary degrees, and was knighted Jan. 2, 1918.

KELVIN, Lord. See **THOMSON**, **SIR WILLIAM**.

KEMAL ATATURK, kē-māl' ā-ta-turk', (MUSTAFA OR MUSTAPHA KEMAL), founder and 1st president of the Turkish Republic: b. Salonika, then a Turkish city, 1881; d. Istanbul, Nov. 10, 1938. The son of a customhouse official, at 12 he entered a military school in his native city where his teacher of mathematics, delighted with his grasp of that science, called him "Kemal" (Perfection). He was then sent to a military college at Bitolj (Monastir) and, in 1902, graduated and was commissioned lieutenant at the Infantry Academy, Istanbul. Continuing his studies, in 1905 he was promoted staff captain. It was a time of revolutionary ferment, the Young Turks bitterly opposing the tyrannical and corrupt government of Sultan Abdul-Hamid II. Mustafa Kemal associated himself with the more radical wing of the Young Turks. Under the slogan and party name "Fatherland and Liberty," later changed to "Union and

progress," the revolutionaries in 1908 forced the sultan to reestablish the constitution of 1876. Having helped to achieve the victory, Kemal found himself in disagreement with party policies and so, for a time, gave up thoughts of a political career.

At the outbreak of the Italo-Turkish War (1911-1912) Capt. Mustafa Kemal volunteered for active service in Tripoli, and was there promoted to the rank of major. He fought in the Second Balkan War in Thrace in 1913, after which he went to Bulgaria as military attaché with the rank of lieutenant colonel. At the beginning of World War I, he was sent to Gallipoli on the Dardanelles, where he organized a new army division. At the first landing of Allied forces, Kemal attacked vigorously and held the invaders to their shore positions. For this victory he was made a colonel. His defeat of the last great Allied assault on Aug. 10, 1915, earned him the sobriquet "the Hero of the Dardanelles." He was made a brigadier general in command of an army corps fighting the Russians, and in 1916 he defeated them at Muş and Bitlis. Having been entrusted with the command of an army in 1917, he suddenly resigned his commission in protest against too strong German influences. However, after accompanying the future sultan to Germany as military adviser, in 1918 he accepted command of the army in Syria. By brilliant generalship he succeeded in limiting the enemy's advance to a line corresponding with Turkey's southern frontier. After the armistice was signed at Mudros (Oct. 30, 1918) General Kemal returned to Istanbul, then controlled by the Allies. He expressed impassioned opposition to the harsh terms imposed on Turkey, in particular the seizure of so much national territory and the abolition of the military forces.

He managed to obtain an appointment as army inspector in Eastern Anatolia, and immediately on arriving at Samsun (May 19, 1919) he began organizing the national movement of resistance, with a firm determination to restore the dignity and prestige of his country. He headed a regional congress at Erzurum (July 23) and a national congress at Sivas (September 4). Resolutions adopted by these congresses were recognized by the Ottoman Parliament at Istanbul on Jan. 12, 1920, as constituting the "National Pact." Whereupon the Allies occupied Istanbul and the Parliament was dissolved. Kemal's counter-stroke was the convocation of a Turkish National Assembly at Ankara on April 3, 1920. Electing him its president the Assembly pledged itself to defend the country by force. Thus was born a new government opposed equally to the sultanate and the victorious Allies.

The war with Greece strengthened Kemal immeasurably. He succeeded in driving them from Anatolia, which they had attempted to occupy in 1921, and in 1922 he was awarded the title Ghazi (Victorious) by the Assembly for his successful rout of their forces. On Nov. 1, 1922 Kemal put an end to the sultanate, leaving only the title caliph to the successors of the Ottoman dynasty. The treaty of Lausanne, a great victory for Kemal, recognized the political and economic independence of Turkey. It was signed on July 24, 1923, and on Oct. 29, 1923, Kemal was unanimously elected as the republic's first president, an office to which he was subsequently re-elected in 1927, 1931, and 1935.

His chief aim on assuming power was the

westernization of Turkey by the elimination of all medieval and oriental customs and heritages, and the establishment of a modern secularized progressive republic. His reforms included the adoption of the Gregorian calendar, the Swiss civil code, and universal education. Monogamy was made the law, women were given equal rights, and the fez, symbol of the legacy of the past, was abolished in favor of the Western hat. Convinced of the need of an alphabetical reform, Kemal went about the countryside like an itinerant teacher expounding the advantages of the simpler Latin alphabet over the unwieldy Arabic one. Finally, on Nov. 1, 1928, a modified Latin alphabet was officially adopted by the National Assembly. When a law was enacted requiring every Turk to have a surname, the National Assembly as an expression of their devotion to Kemal gave him the surname of Atatürk (Father of the Turks).

"Peace in our land, peace throughout the world" was his motto and the inspiration of his foreign policy. At first he sought to insure peace and security through bipartite agreements; but after Turkey became a member of the League of Nations he shifted his policy to base it rather on collective security alliances such as the Balkan pact (1934), Montreux agreement (1936), and Sadabad pact (1937).

President Kemal's death at Istanbul followed a long illness. İsmet İnönü, for 20 years his most intimate collaborator, succeeded him in the presidency. A great mausoleum at Ankara contains the remains of the man whose genius made of the 19th century "sick man of Europe" the strong independent republic of our day and a major stabilizing force in the Middle East.

FAIK REŞİT UNAT,
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KEMAL BEY, kē-māl' bā' (real name MEH-MED NAMIK), Turkish poet, writer, and patriot: b. Tekirdag, Turkey, Dec. 21, 1840; d. Chios, Greece, Dec. 2, 1888. From an old aristocratic family, he was educated by private tutors, and joined the staff of a revolutionary newspaper at an early age. He was forced to flee to Europe where he helped publish the revolutionary paper, *Hürriyet*. With his stirring writings he exerted a strong effect on the Young Turk movement, becoming one of the most influential writers of his time. He wrote much verse in Arabic, Persian, and Turkish, and translated, among others, Francis Bacon and Jean Jacques Rousseau. His patriotic play *Vatan*, (meaning Fatherland) caused his arrest and brief exile in 1872. He was also the author of historical novels, biographies, and a history of Turkey.

KEMBLE, kem'b'l, **Charles**, English actor: b. Brecon, Wales, Nov. 25, 1775; d. London, England, Nov. 12, 1854. The 11th child of Roger Kemble, he was educated in France and England, and made his first appearance at Drury Lane as Malcolm to his brother's Macbeth in 1794. He successfully produced a number of foreign plays, and as an actor he gained fame for his portrayals of such characters as Romeo, Charles Surface, Cassio, and Benedick. His impersonations were greatly heightened by his fine voice, handsome features, and tall athletic figure. About 1840 he was appointed examiner of plays, and shortly thereafter made his last stage appear-

ance, although he subsequently gave occasional public readings from Shakespeare.

KEMBLE, Edward Windsor, American caricaturist and illustrator: b. Sacramento, Calif., Jan. 18, 1861; d. Ridgefield, Conn., Sept. 19, 1933. After a period at the Art Student's League in New York City, he became regular art contributor to the *Graphic*, and later to the *Century* and other local magazines. He specialized in Negro characters, illustrating many of his own books. He was illustrator for *Colliers* (1903-1907) and for *Harper's Weekly* (1907-1912). He illustrated editions of *Huckleberry Finn*, *Pudd'nhead Wilson*, and *Uncle Tom's Cabin*, as well as numerous other books.

KEMBLE, Elizabeth. See WHITLOCK, ELIZABETH KEMBLE.

KEMBLE, Frances Anne, English actress: b. London, England, Nov. 27, 1809; d. there Jan. 15, 1893. Fanny, as she soon came to be known, made her debut in 1829 at Covent Garden, then managed by her father, Charles Kemble, playing Juliet to his Mercutio, with her mother playing the nurse. For the next three years she played leading parts in tragedy and comedy, distinguishing herself especially as Juliet, Portia, and Louise de Savoy in her own play *Francis the First*, written when she was 17. In 1832 she accompanied her father to the United States where she was an immediate success. In 1834 she retired from the stage to marry Pierce Butler, a southern planter, by whom she had two daughters. In 1835 she published *Journal of a Residence in America*, considered by many to be too critical of the young republic. She was shocked by the conditions of slavery, and she separated from her husband shortly after her first stay on his plantation in 1838. They were divorced in 1848. In 1863 she published *Journal of a Residence on a Georgian Plantation* to influence British opinion during the Civil War.

She wrote *A Year of Consolation* in 1847 after a year spent in Italy, and in 1848 she began a series of Shakespearean readings in Boston and other cities. After the death of Pierce Butler in 1867, Fanny alternated her time between her two married daughters, one of whom was the mother of the writer Owen Wister. She continued writing throughout her life, and her works, mostly autobiographical, reveal a keen intelligence as well as providing an illuminating record of the American stage in the mid-19th century.

KEMBLE, Gouverneur, American manufacturer: b. New York, N. Y., Jan. 25, 1786; d. Cold Spring, N. Y., Sept. 16, 1875. He graduated from Columbia College in 1803, and, after a period in business, he became United States consul at Cadiz, Spain. He made a close study of the methods of European armament manufacture, and on his return to the United States he established a foundry at Cold Spring, N. Y., where the first successfully cast cannon were produced in the United States. He served as a Democratic Congressman from 1837 to 1841. He was a close friend of Washington Irving who used Kemble's house as the model for Cockloft Hall in *Salamagundi*.

KEMBLE, John Mitchell, English philologist and historian: b. London, England, April 2,

1807; d. Dublin, Ireland, March 26, 1857. He was educated at Trinity College, Cambridge, and devoted his study to the ancient manuscripts of the Anglo-Saxon language in the libraries of Germany and England. In 1833 he published *The Poems of Beowulf*, and in 1849 he brought out his most important work, *The Saxons in England*. He was for many years editor of the *British and Foreign Review*, and in 1840 he succeeded his father, Charles Kemble, as censor of plays, an office he occupied until his death.

KEMBLE, John Philip, English tragedian: b. Prescott, Lancashire, England, Feb. 1, 1757; d. Lausanne, Switzerland, Feb. 26, 1823. He was educated in England and France, and made his debut in *Hamlet* in 1783. In 1788 Kemble obtained the management of the Drury Lane Theatre where his sister, Mrs. Siddons, was the main attraction. In 1802 he became manager of the Covent Garden Theatre, and continued his success there until the theater's destruction by fire in 1808. In 1809 the new edifice which had been constructed with an increase of prices, and which with certain unpopular arrangements in regard to private boxes, created for a series of nights the disturbances known as the O. P. riot, so called because of the badges worn by the demonstrators of a return to old prices. Kemble's merits were variously evaluated, but he was regarded as a highly gifted actor by all. He retired from the stage in 1817.

KEMBLE, Maria Theresa, English actress: b. Vienna, Austria, Jan. 17, 1774; d. Chertsey, Surrey, England, Sept. 3, 1838. A member of a family of musicians and dancers, she made her debut on the London stage at the age of six. In 1806 she married Charles Kemble with whom she appeared for the next 13 years. She was the author of several plays which were popular in their time; her daughter Fanny inherited her ability both as an actress and a writer.

KEMBLE, Roger, English actor and theatrical manager: b. Hereford, England, March 17, 1721; d. Dec. 6, 1802. He established a traveling company (1753) in which his entire family (including his daughter Sarah, afterwards Mrs. Siddons) appeared. He achieved some local success in the role of Falstaff, although he is noted more for his progeny than for his dramatic ability.

KEMBLE PLAYS, a collection of English dramas made by the actor and producer John Kemble. Among the original manuscripts are the first editions of Shakespeare. At the time of his death the collection brought £2,000 at auction; it is now in the Devonshire House library, London.

KEMENY, ké'mān-y', **BARON Zsigmondy**, Hungarian writer: b. Alvinc, Transylvania, Jan. 1814; d. Hungary, Dec. 22, 1875. Combined newspaper work with his literary efforts. He was editor of *Pesti Hírlap* and *Pesti Napló*. In 1846 he brought out his first great novel, *Gyulay*. Before his brief exile, he was a member of the revolutionary Diet of 1848, and as a supporter of Ferencz Deák he was elected to the Diet of 1867. Primarily a historical novelist, Kemény is considered one of Hungary's greatest writers; a collection of his essays appeared in English under the title of *Studies*.

KEMEROVO, kēm'ě-rō-vō, oblast, USSR, in the central part of the country. It is an administrative district, established during World War II out of Novosibirsk Oblast, and includes some of the most important heavy industry in the Soviet Union. This rapidly growing region has steel mills, chemical industries producing fertilizer and other necessities, and iron ore mines. In the more mountainous areas, cattle raising, gold mining, lumbering, and fur trapping are engaged in. The region is about 36,900 square miles in area. Pop. (1939) approximately 1,950,000.

KEMEROVO, city, USSR, capital of Kemeroovo Oblast. Until about 1935 the city was known as Scheglovsk. Located on the Tom River, where it has a large power station, Kemeroovo is one of the most important coal mining centers of the entire Kuznetsk Basin. It also has iron, lead, and zinc mines, and is connected to the Trans-Siberian Railway. Its great industrial growth, under the various Five-Year plans, has been comparatively recent. Pop. (1939) 132,978.

KEMEYS, kēm'ēz, **Edward**, American sculptor: b. Savannah, Ga., Jan. 31, 1843; d. Washington, D. C., May 11, 1907. After serving as a captain in the artillery during the Civil War, he traveled to the West where he became familiar with Indian life and the habits of wild animals. In Paris and London, where he visited in 1877, exhibits of his sculpture attracted favorable attention. Although he made wild animals his specialty, gaining fame for his fidelity to nature their lifelike representation, he was also remarkably successful in his figures of the North American Indian.

KEMI, kē'mi, seaport, Finland, located in the northern part of the country at the mouth of the Kemi River, on the Gulf of Bothnia, 55 miles northwest of Oulu. The city, with rail connection to Murmansk, is a timber shipping center with large lumber and pulp mills. The Kemi River, the most important Finnish river in terms of power, rises near the Russian border and flows southwest about 345 miles into the Gulf of Bothnia. At its mouth there are salmon fisheries and cellulose mills. Pop. (1949) 23,387.

KEMMERER, kēm'ēr-ēr, **Edwin Walter**, American economist: b. Scranton, Pa., June 29, 1875; d. Princeton, N. J., Dec. 16, 1945. He was educated at Wesleyan and Cornell, and taught economics at Cornell and Princeton. In 1903 he was made financial adviser to the Philippine Commission, and in the years following served in an advisory capacity on fiscal matters for the governments of Mexico, Guatemala, Colombia, Chile, Ecuador, Bolivia, and Peru. He wrote numerous books on finance and fiscal policy, including: *The United States Postal Savings System* (1917); *High Prices and Deflation* (1920); *Kemmerer on Money* (1934); *The ABC of Inflation* (1942).

KEMNITZ or **CHEMNITZ**. See **CHEMNITZ**, **MARTIN**.

KEMP, kēmp, **Harry Hibbard**, American writer and novelist: b. Youngstown, Ohio, Dec. 15, 1883. His first novel, *Tramping on Life* (1922), is based on a trip around the world which he started with 25 cents. He was the founder

and manager of the Poets' Theater, and the author of the play *Judas*, produced in 1910. Among his works of poetry are: *The Cry of Youth* (1914); *Chanteys and Ballads* (1920); *The Sea and the Dunes* (1926). His novels include: *More Miles* (1920); *Love Among the Cape-Enders* (1931); *Mabel Turner, an American Primitive* (1936).

KEMP, **James Furman**, American geologist: b. New York, N. Y., Aug. 14, 1859; d. Great Neck, N. Y., Nov. 17, 1926. After graduation from Columbia School of Mines in 1884, he studied at Munich and Leipzig, and taught at Cornell. In 1891 he returned to Columbia, becoming (1892) professor of geology. He was one of the organizers of the Geological Society of America, and served as its president in 1921. The author of many textbooks and scientific papers, Kemp was considered a world authority on ore deposits. His *Handbook of Rocks* (1911) is still regarded as a standard work.

KEMP or **KEMPE**, **John**, English prelate: b. near Ashford, Kent, England, c.1380; d. London, March 22, 1454. He was educated at Merton College, Oxford, and took up the practice of ecclesiastical law. He was an assessor at the trial of Sir John Oldcastle, and became dean of the Court of Arches in 1415. He was given a place in the government of Normandy, and later became chancellor there. In 1419 he was chosen bishop of Rochester, being consecrated at Rouen in the same year. In 1426 Kemp was made chancellor and became archbishop of York. He remained in the office of chancellor until 1432, and succeeded in keeping a close restraint on Humphrey of Gloucester. To placate the latter Kemp's resignation was brought about in 1432. He was still an important member of the council, and in 1435 he was sent to the Congress of Arras and in 1438 to that in Calais. He was created cardinal in 1439, and in 1450 he became chancellor for the second time. Although he was a compromise choice for that office, he dealt firmly with Cade's Rebellion (See **CADÉ**, **JOHN**) and vigorously upheld the royal authority. He was made archbishop of Canterbury in 1542.

KEMPEN, kēm'pēn, town, Germany, in the Province of North Rhine-Westphalia, in the western zone. Located about 40 miles northwest of Cologne, it is a rail junction and a center of textile manufacturing. Kempen has a Gothic church, a 14th century castle, and is the birthplace of Thomas a Kempis. It was first chartered in 1294. Pop. (1946) 9,827.

KEMPENER, kēm'pē-nēr, or **KEMPE-NEER**, **Peter de** (Span. **PEDRO CAMPAÑA**), Flemish painter: b. Brussels, Spanish Netherlands, c.1503; d. there, 1580. He went to Italy about 1530 to study the Italian masters, and lived in Venice and later in Bologna, where he painted some of the decorations of the triumphal arch for the reception of Charles V. He subsequently lived in Seville, Cordova, and other cities of Andalusia, and in 1563 he returned to Brussels where he became chief engineer of the duke of Alva, and director of the tapestry works there. In style his paintings combined to some extent the characteristics of the school of Raphael and the Flemish painters. He is reported to have been greatly admired by Murillo. His mas-

terpiece, *The Deposition from the Cross*, is found in the cathedral at Seville, where his *Purification* and *Resurrection* are located. The Berlin Museum also has an excellent example of his work, *The Adoration of the Magi*. The National Gallery in London contains his *Christ Preaching in the Temple*.

KEMPENFELT, kēm'pĕn-fĕlt, **Richard**, British naval officer: b. Westminster, London, England, 1718; d. off Spithead, England, Aug. 29, 1782. Of Swedish descent, he entered the navy and saw service in the West Indies during the capture of Portobello. He was made a rear admiral in 1780, and in 1781 achieved a brilliant victory over a far superior French fleet at De Guichen. He was junior to Lord Richard (Black Dick) Howe, and had his flag on the *Royal George* when Howe took command of the fleet in 1782. In the refitting of this ship, her guns were shifted to give her a slight list and facilitate the repair of a leak. However, the hull would not stand the strain, and she broke up and went down with Kempenfelt and 800 others aboard.

KEMPER, kēm'per, **James Lawson**, American army officer and politician: b. Madison County, Va., June 11, 1823; d. Orange County, Va., April 7, 1895. He graduated from Washington College in 1842, and studied law in Charlestown, Va. He served in the Mexican War as a captain of volunteers, and for 10 years was a representative in the Virginia legislature. He served with distinction in the Civil War, rising from colonel to major general, and was seriously wounded leading the right wing of General George Pickett's charge at Gettysburg. He returned to the practice of law, and was Democratic governor of Virginia from 1874 to 1878.

KEMPER, Reuben, American frontiersman: b. Fauquier County, Va., 1770; d. Natchez, Miss., Jan. 28, 1827. He emigrated to Ohio in 1800, and later, with his two brothers, started a movement in the Mississippi Territory to rid west Florida of Spanish rule. His attempt to capture Mobile failed, but in 1812 he fought valiantly against the Spanish authority in Mexico. He added to his military reputation under General Andrew Jackson in the defense of New Orleans (1815).

KEMPF, kēmpf, **Louis**, American naval officer: b. Belleville, Ill., Oct. 11, 1841; d. Santa Barbara, Calif., July 29, 1920. He was graduated from the United States Naval Academy in 1861 and served with distinction throughout the Civil War. He was promoted captain in 1891 and became rear admiral in 1899. When the Boxer troubles began in China in 1900 he was placed in command of the United States naval forces in Chinese waters. On May 29 he sent 108 marines ashore, who cooperated with the men landed from the other foreign warships in the harbor at Taku. When on June 16 the senior naval officers of the other foreign nations drew up and signed a demand for the surrender of the Taku forts, Kempf declined to sign it on the ground that as long as the Chinese imperial authorities placed no obstacle in the way of his countrymen he had no just ground to commit an act of war against a country with which his own was at peace. During the subsequent bombard-

ment the United States ship *Monocacy*, which was some distance up the river above Taku and had her flag flying, was struck by a shot from the forts. Considering this an act of aggression Admiral Kempf committed his forces with the others. He retired in 1903.

KEMPIS, Thomas a. See THOMAS, KEMPIS.

KEMPT, kēmp't, **SIR James**, British soldier and administrator: b. 1764; d. London, England, Dec. 20, 1854. He entered the army in 1783, saw service in Holland and Egypt, and commanded a brigade in the Peninsula. He was wounded at Badajoz, and later commanded a division at Waterloo. He served as governor of Nova Scotia from 1820 to 1828, and was governor general of Canada 1828-1830.

KEMPTEN, kēmp'tĕn, city, Germany, located in Bavaria, in the western zone, about 80 miles southwest of Munich with which it is connected by rail. The town was an important Roman trading center, and flourished in the Middle Ages. It has picturesque buildings, a rebuilt Romanesque church, and a baroque castle. It is a commercial and manufacturing center with a metal working industry producing agricultural tools, and optical and precision instruments. It also has a lumber and paper milling industry, and raises a number of agricultural and dairy products. Created a free imperial city in 1525, it passed to Bavaria in 1802. Pop. (1950) 39,821.

KEN or **KENN**, kĕn, **Thomas**, English bishop and hymnologist: b. Little Berkhamstead, Hertfordshire, England, July, 1637; d. Longleat, Wiltshire, March 19, 1711. He was educated at Winchester and New College, Oxford, and in 1669 became prebend of Winchester. In 1680 he was appointed chaplain to Charles II, attended him in his last illness, and was nominated by him to the bishopric of Bath and Wells in 1684. He suffered deprivation with other non-jurors (q.v.) on the accession of William of Orange, for maintaining allegiance to James II (1691). He was one of the lights of the English church in one of the darkest periods of English social life, and by his zeal and devotion did much to maintain the standard of Christian conduct. His morning and evening hymns ("Awake my soul," and "Glory to Thee, my God, this night") earned him enduring fame.

KENA, kĕn'ā or **KENNEH** or **QENA**, capital of an Egyptian province of the same name on the Nile River.

KENAF (also known as **DECCAN**, **AMBARI**, **BOMBAY** or **INDIAN HEMP**, **BASTARD JUTE** or **HEMP MALLOW**), is a fast growing annual or perennial shrub, 8 to 12 feet high, with prickly stems and large yellow flowers with a crimson center. Its scientific name is *Hibiscus cannabifolius* (hemp-leaved hibiscus) and it belongs to the mallow family, Malvaceae. Native to India, it is also widely cultivated throughout the Old World tropics and, in the Western Hemisphere, especially in Cuba. Its coarse bast fibers are similar to those of jute and equally useful for making bagging, carpeting, twines, and many other products. The fibers are obtained from the inner bark by machine or more often by retting. In Cuba

ants grown from seed planted at the beginning of the rainy season, late in April or early in May, are ready for harvesting in about 100 days, but reach their optimum about 140 to 150 days after planting when they contain up to 8 per cent of water. Under favorable conditions an acre may yield about 5,000 pounds of dry fiber.

THEODOR JUST.

KENAI PENINSULA, kē'nī, peninsula, Alaska, in the southern part, with Prince William Sound on the east, the Gulf of Alaska east and south, and Cook Inlet on the west. The Kenai Mountains extend along the southeast coast, rising to a height of 7,000 feet. The peninsula is about 160 miles long and 110 miles across at the widest part. It has good harbors, valuable coal fields, and gold has been discovered.

KENDAL, kēn'd'l, **DAME Margaret Robertson** (GRIMSTON), English actress: b. Grimbsy, Lincolnshire, England, March 15, 1849; d. Chorley Wood, Hertfordshire, Sept. 14, 1935. Known on the stage as both Madge Robertson and Madge Kendal, she was a sister of T. V. Robertson. In 1869 she married William Hunter Grimston, who had taken the stage name of Kendal, and her life was identified closely with that of his thereafter. At the time of her marriage she had acted over 50 parts from Shakespeare to pantomime, and together the couple achieved great success at the Haymarket Theatre. Perhaps her crowning triumph came in 1902 when she appeared with Ellen Terry opposite Benbolton Tree's Falstaff in *The Merry Wives of Windsor*. After 1899 she made several successful tours in the United States and Canada, returning from the stage in 1908.

KENDAL, William Hunter (real name WILLIAM HUNTER GRIMSTON), English actor: b. London, England, Dec. 16, 1843; d. there, Nov. 11, 1917. He made his first stage appearance in 1861 and took the name of Kendal for his debut. From 1862 until 1866 he was a member of the company at the Theatre Royal in Glasgow, returning to the Haymarket Theatre in London for performance of *A Dangerous Friend* in 1866. He subsequently played such parts as Charles Dromio, Orlando, Romeo, and Captain Absolute, and with his wife Margaret (Madge) Robertson he played at the Opera Comique and the Haymarket Theatre during the season of 1874-1875. In 1875 he entered into partnership with Sir John Hare at the Court Theatre. From 1889 to 1908 he and Mrs. Kendal successfully toured the United States and Canada.

KENDAL, kēn'd'l, town and municipal borough, England, located in Westmoreland county on the Kent River, 20 miles north of Lancaster. It is a manufacturing center for shoes, hosiery, farm machinery, paper, soap, and carpets. It contains the ruins of a 14th century castle, and the remains of a Roman station are found here. The woolen industry introduced by Flemish immigrants has long been famous; during the Middle Ages the cloth which came to be known as "Kendal Green" was made here. op. (1951) 18,543.

KENDALL, kēn'd'l, **Amos**, American journalist: b. Dunstable, Mass., Aug. 16, 1789; d. Washington, D.C., Nov. 12, 1869. After grad-

uation from Dartmouth, he studied law and was admitted to the bar at Frankfort, Ky., in 1814. In 1815 he became postmaster and editor of the *Patriot* at Georgetown, Ky., and from 1816 until 1829 he was coeditor and part owner of the *Argus of Western America*. In 1829 he was appointed fourth auditor of the United States treasury, and throughout the administration of Andrew Jackson he was considered the most influential member of the "Kitchen Cabinet." He aided in the formation of the president's anti-bank policy and is believed to have written several of Jackson's state papers. Appointed postmaster general by Jackson in 1835, he was retained by Martin Van Buren, retiring because of ill health in 1840. He cleared the Post Office Department of debt and corruption and instituted reforms which remained in effect for many years after his retirement. After two unsuccessful publishing ventures, he became (1845) associated with S. F. B. Morse in the ownership and management of the Morse electric telegraph patents, and by his able direction both men made a fortune. A great deal of Kendall's money subsequently was given to various philanthropies in Washington. Although he called himself a Jacksonian Democrat, he strongly opposed secession and wrote influentially against it. His *Autobiography* was posthumously published in 1872.

KENDALL, Edward Calvin, American biochemist: b. South Norwalk, Conn., March 8, 1886. He graduated from Columbia in 1908, and received his doctor's degree from that university in 1910. He was head of the biochemistry section at the Mayo Clinic, and from 1921 until 1951 he was professor of physiologic chemistry at the University of Minnesota's Mayo Foundation. He is the recipient of numerous awards for his work in identifying the chemical structure and composition of the adrenal compounds, investigation which resulted in the compound cortisone, successfully used in the relief of rheumatoid arthritis. In 1950, together with his colleague Dr. Philip S. Hench and Professor Tadeus Reichstein of Switzerland, Kendall was awarded the Nobel Prize for medicine.

KENDALL, George Wilkins, American journalist: b. Mount Vernon, N. H., Aug. 22, 1809; d. Oak Springs, Tex., Oct. 21, 1867. Settling in New Orleans he was one of the founders of the New Orleans *Picayune* (named after the small coin then in use) in 1837, which, under his direction, became one of the leading journals of the South. He was one of the first war correspondents and his paper became famous for the wide and speedy coverage given to the war with Mexico. In 1851 he published *The War Between the United States and Mexico*.

KENDALL, Henry Clarence, Australian poet: b. Ulladulla district, New South Wales, Australia, April 18, 1841; d. Redfern, near Sydney, Aug. 1, 1882. He was in public service for many years, was active as a journalist in Melbourne, and for some time previous to his death he was an inspector of forests. Kendall was a great reader of poetry, and was impressed at an early age by the wild beauty of the landscape. His first volume of poetry, *Poems and Songs*, was published in 1862, followed by *Leaves from an Australian Forest* (1869). His last book was titled *Songs from the Mountains* (1880). He

has been called the poet of the bush because of his skillful delineation of the character of the Australian landscape. A collected edition of his verse, with a memoir, was published in 1886.

Consult Martin, A. P., "Concerning Australian Poets," *Australian Poets, 1788-1888* (London 1888); Sladen, D. B. W., "A Study of Henry Kendall as a Bush Poet," *Australian Ballads and Rhymes* (London 1888).

KENDALL, (William) Sergeant, American painter and sculptor: b. Spuyten Duyvil (now part of New York City), N. Y., Jan. 20, 1869; d. Hot Springs, Va., Feb. 16, 1938. He studied under Thomas Eakins (1883) and at the Art Students League of New York (1886). In 1888 he went to France, where he attended the École des Beaux-Arts and also studied under Luc Olivier Merson. Kendall was equally successful in figure, portrait, and landscape painting, and in his later years became a sculptor as well. His best work, however, is to be found among his many charming portraits of children. He received numerous honors, including gold medals at the expositions held in St. Louis in 1904 and San Francisco in 1915 and membership in the National Academy of Arts and Letters (1905), in acknowledgment of his talent as a colorist and draftsman. From 1913 to 1922 he was dean of the School of Fine Arts and William Leffingwell professor of painting and design at Yale University.

Kendall's paintings are exhibited in all the leading museums and galleries of the United States. Among them are *The End of the Day* and *An Interlude*, in the National Gallery, Washington, D.C.; *Psyche* and *The Seer*, in the Metropolitan Museum of Art, New York City; *Beatrice*, in the Pennsylvania Academy of Art, Philadelphia; *Narcissa*, in the Corcoran Gallery, Washington, D.C.; *Crosslights*, in the Detroit Institute of Arts; and *Intermezzo*, in the Rhode Island School of Design, Providence.

Consult Caffin, C. H., "The Art of Sergeant Kendall," *Harper's Magazine*, 117:568 (1908); Mather, F. J., Jr., "Kendall, Painter of Children," *Arts and Decoration*, 1:15 (1910).

KENDALL, William Mitchell, American architect: b. Jamaica Plain (now part of Boston), Mass., Feb. 13, 1856; d. Bar Harbor, Me., Aug. 8, 1941. He was graduated from Harvard in 1876, and then studied architecture for two years at the Massachusetts Institute of Technology and subsequently in France and Italy. In 1882 he became associated with McKim, Mead & White of New York City, and in 1906 was made a member of the firm. As such he participated in designing many notable structures, including the General Post Office, Municipal Building, Morgan Library, and buildings at Columbia University in New York City; the American Academy, Rome, Italy; the McKinley Memorial, Niles, Ohio; and the Arlington Memorial Bridge, Washington, D.C. He was a member of the National Academy of Arts and Letters.

KENDALLVILLE, city, Indiana, situated in Noble County, 27 miles north-northwest of Fort Wayne, on the New York Central and Pennsylvania railroads. The trading center for a fertile farming region producing onions, dairy products, livestock, soybeans, and grain, the city has industrial plants producing refrigerators, pumps, windmills, machinery, metal products, wheels, furniture, brushes and brooms, artificial

bait, wood products, fertilizers, and food products. Nearby are facilities for swimming, fishing, and boating. Kendallville has a hospital, a public library, and a municipal airport. It is governed by a mayor and council. Pop. (1950) 6,119.

KENDRICK, Asahel Clark, American scholar and classicist: b. Poultney, Vt., Dec. 7, 1809; d. Rochester, N. Y., Oct. 21, 1895. Following his graduation from Hamilton College in 1831, he became professor of ancient and modern languages at Madison (now Colgate) University where he remained until 1850, when he became professor of Greek language and literature at the University of Rochester, a post he retained until his death. From 1872 to 1880 he was a member of the American New Testament Revision Committee. His published works include *An Introduction to the Greek Language* (1841); *Biblical Commentary on the New Testament* (1856-1858), a revised version of a work by Justus Olshausen; *The Analysis of Xenophon* (1873); and *Our Poetical Favorites* (1871-1881).

KENDRICK, John, American navigator and trader: b. Harwich, Mass., c.1740; d. Honolulu, Hawaiian Islands, Dec. 12, 1794. He went to sea as a youth, and during the American Revolution he sailed as a privateer. In 1787 he left Boston in command of the *Columbia* and the *Washington* on a voyage that took him first to Nook Sound, where he transferred the *Columbia* to his assistant, Capt. Robert Gray (q.v.); then to the Queen Charlotte Islands, where he engaged in trade; and to China via the Hawaiian Islands. Returning to North America in 1791, he visited Japan on the way, one of the first Americans to do so. He crossed the Pacific again in 1794. Revisiting the Hawaiian Islands, he was killed by an accidental shot.

KENEDY, city, Texas, situated in Karnes County, about 60 miles southeast of San Antonio on the Southern Pacific Railroad. In an area raising cotton, corn, and flax and producing oil, the city has plants processing food and cotton seed. Kenedy is a health resort with hot mineral wells, and it holds an annual flax festival. Founded in 1882, it was incorporated in 1911. Pop. (1950) 4,234.

KENILWORTH, urban district, England, situated in Warwickshire, 5 miles southwest of Coventry. It has tanneries and engineering establishments. Kenilworth is celebrated as the seat of Kenilworth Castle, now in ruins. The castle was the scene of Sir Walter Scott's *Kenilworth* (q.v.), and it figured prominently in the history of northern England in the Middle Ages. Founded by Geoffrey de Clinton about 1120, it belonged to Simon de Montfort from 1254 to 1266. It was acquired by John of Gaunt in 1358 and passed to his son Henry IV. During the Wars of the Roses it changed hands frequently. In 1562, Queen Elizabeth I presented it to her favorite, Robert Dudley, earl of Leicester, and he entertained her there in 1566, 1568, 1572, and 1575. The last occasion is vividly described in Scott's novel. Kenilworth also has the ruins of an Augustinian priory established about 1120. Pop. (1951) 10,738.

KENILWORTH, village, Illinois, situated

Cook County, on Lake Michigan, 17 miles north of Chicago, of which it is a residential suburb. It is served by the Chicago and North Western and the Chicago North Shore and Milwaukee railroads. Kenilworth was incorporated 1896. Eugene Field is buried in the village. op. (1950) 2,789.

KENILWORTH, borough, New Jersey, situated in Union County, 4 miles northwest of Elizabeth, on the Rahway Valley Railroad (freight only). It has plants producing machinery, metal products, pipe, coal tar products, paper, rushes, and plastics. Kenilworth was incorporated in 1907. Pop. (1950) 4,922.

KENILWORTH. Sir Walter Scott's *Kenilworth*, first published in 1821, is a historical romance of the time of Queen Elizabeth I, involving the relations between the queen and Robert Dudley, earl of Leicester. Leicester is represented as having contracted a secret marriage with Amy Robsart, and as being torn between the two motives of love for his beautiful bride and a consuming ambition to rise superior to all his rivals in the royal favor. It is for fear of his jealous sovereign's displeasure that he has concealed his marriage and hidden his wife in Cumnor Place. At the opening of the story, Tressilian, her former lover, discovers her whereabouts and attempts to get her to return to her father's house. He is opposed by the machinations of Richard Varney, a retainer of Leicester's. Tressilian appeals to the queen to restore the lady to her parents. Discovery is imminent, but Varney temporarily saves the situation by claiming that she is his wife. Elizabeth commands that Amy be brought before her at her approaching visit to Lord Leicester's castle of Kenilworth. Varney, after trying in vain to induce her to pose as his wife, gives her a drug intended to produce an illness that will make her removal impossible, but, fortified with an antidote administered by a servant of Tressilian's, she escapes from Cumnor Place and journeys to Kenilworth seeking her husband. During the revels at the castle the queen inflames Lord Leicester's ambitions by letting him see that he may even aspire to her hand. Varney convinces him that Amy has been unfaithful and he gives orders for her death. Later, learning that Varney has deceived him, Leicester confesses the truth to Elizabeth in a paroxysm of remorse and is subjected to an outburst of royal anger. The messengers whom he is sent to Cumnor Hall, whither Amy has been hurried, arrive too late, and the unfortunate princess is killed by falling through a trap door laid at the entrance of her chamber by the hand of Varney.

In no novel of Scott's is the historical setting elaborated with more care than in *Kenilworth*. While indifferent to literal accuracy, Scott has brilliantly rendered the atmosphere of the time by multitude of characteristic details drawn from a wide reading of Elizabethan literature. The revels at Kenilworth, for example, are elaborately described after the contemporary account of Robert Laneham. The delineation of Elizabeth is a fine specimen of Scott's characteristic art of reading romance and human nature into the outlines afforded by historical record. The Amy Robsart story is based on rumors and traditions current in Leicester's time and recorded in contemporary documents, but Scott has com-

bined the actual circumstances of more than one of Leicester's marriages and has also drawn heavily on his imagination.

For the facts of Leicester's marriage to Amy Robsart, consult *The Dictionary of National Biography*, vol. 6, pp. 112-13 (London 1937-38).

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KENILWORTH IVY, a trailing perennial plant (*Cymbalaria muralis*), with leaves like those of ivy. Native to Europe, it is cultivated in the northeastern United States as an ornamental ground cover, along walls, and in greenhouses.

KENITES, the name of a tribe which inhabited the rocky desert region between southern Palestine and the mountains adjoining Sinai in Biblical times. At the time of the Exodus, they pastured their flocks around Mount Horeb and Sinai. Jethro or Hobab, the father-in-law of Moses, was a Kenite. He is also called a Midianite, and it may be that the names are interchangeable or that the Kenites and the Midianites were closely related. A third conjecture is that the Kenites were the older family of Midianites, the later family descending from Abraham and Keturah. Because of their great kindness to the people of Israel, they were highly esteemed. When Saul attacked the Amalekites, he warned the Kenites to separate from them. In the time of David they still held their possessions in the south of Judah, but the small number left after the Babylonian conquest took refuge in Jerusalem.

KENITRA, the name until 1932 of Port Lyautey, French Morocco.

KENMARE, Nun of. See CUSACK, MARY FRANCES.

KENMORE, village, New York, situated in Erie County, on the Niagara River, just north of Buffalo, of which it is a residential suburb. There are plants producing chemicals, machinery, and metal and rubber products. The village has a public library, a junior and a senior high school, and a historical society which maintains a collection of documents on local history. Kenmore was incorporated in 1899. Government is administered by a board consisting of a mayor and four trustees. Pop. (1950) 20,066.

KENNAN, George, American journalist and author: b. Norwalk, Ohio, Feb. 16, 1845; d. Medina, N. Y., May 10, 1924. Interested in telegraphy from boyhood, he became a military telegraph operator in the Civil War. In 1865 he was sent by the Western Union Telegraph Company to Siberia to survey a telegraph route. From 1866 to 1868 he superintended the construction of the middle division of the line of the Russo-American Telegraph Company. He remained in Russia through 1871, exploring the mountainous regions of the eastern Caucasus and Dagestan. On his return to the United States he engaged in business and also became well known as a lecturer on Russia. From 1877 to 1885 he was assistant manager of the Associated Press in Washington, D.C. In 1885-1886, with

George A. Frost, an artist, he traveled in Russia for the Century Company, investigating the exile system in Siberia. He visited all the mines and prisons between the Ural Mountains and the headwaters of the Amur. Kennan served as correspondent for the *Outlook* in Cuba in 1898, and in Martinique in 1902, when he explored Mount Pelée and the scene of the St. Pierre disaster. In 1904 the *Outlook* sent him to the Far East. He reported the siege of Port Arthur, which he witnessed from the Japanese side, and he spent nearly two years in travel through Japan, China, and Korea.

His published works include *Tent Life in Siberia* (1870); *Siberia and the Exile System* (1891); *Campaigning in Cuba* (1899); *The Tragedy of Pelée* (1902); *Folk-tales of Napoleon* (1902); *A Russian Comedy of Errors* (1915); *The Chicago & Alton Case* (1916); and *E. H. Harriman: A Biography* (1922).

KENNAN, George F(rost), American diplomat: b. Milwaukee, Wis., Feb. 16, 1904. Nephew of George Kennan (q.v.), he was educated at Princeton University. Upon his graduation in 1925, he joined the Foreign Service of the United States State Department and was sent to Geneva as vice consul. He was transferred to Hamburg in 1927 and to Tallin in 1928. In 1929 he served successively as third secretary in Riga, Kovno, and Tallin. The State Department, anticipating the establishment of relations with the Soviet Union, next assigned him as a language officer to Berlin, where he made an intensive study of the Russian language and culture. After serving as third secretary in Riga (1931-1933), he accompanied Ambassador William C. Bullitt to Moscow as an expert on Russian affairs. In 1934 he was appointed third secretary of the embassy. After an interval in Vienna as consul and second secretary in 1935, he returned to Moscow as second secretary and remained there until 1937, when he was assigned to the State Department. He served as second secretary in Prague in 1938-1939, as second secretary in Berlin in 1939, and as first secretary in 1940-1941. He was interned for five months after the German declaration of war, and then went to Lisbon as counselor of legation. While there, he helped to negotiate the lease of bases in the Azores and participated in the negotiations for the Italian surrender. In 1944 he served as counselor to the American delegation to the European Advisory Commission in London. In the same year he returned to Moscow as minister-counselor, serving in this capacity and, on occasion, as chargé d'affaires, until 1946, when he was appointed deputy for foreign affairs at the National War College in Washington. In the following year he became head of the State Department's policy planning staff. In this capacity, he advocated the policy of containment of the Soviet Union that became one of the keystones of United States foreign policy in the succeeding years. In 1949 he was appointed deputy counselor and principal long-range adviser to the secretary of state. In the following year he obtained a leave of absence to write and study at the Institute for Advanced Study, Princeton, N. J. The fruit of his stay there, *American Diplomacy: 1900-1950*, was published in 1951. Early in 1952, Kennan was appointed ambassador to the USSR, but in October of that year the Soviet government demanded his recall because of

comments he had made on living conditions for foreigners in Moscow. Although the United States government rejected the Soviet demand, Kennan was out of the USSR at the time and could not return to his post.

His brother, **KENT WHEELER KENNAN** (b. Milwaukee, Wis., April 18, 1913), is a composer and teacher of music. He studied at the University of Michigan and the Eastman School of Music, where he received his B.Mus. degree in 1934, and his M.Mus. degree in composition in 1936, when he won the Prix de Rome. After studying in Rome at the Academy of St. Cecilia, he taught music at Kent State University (1939-1940) and the University of Texas (1940-1942). During World War II he served in the Army Air Forces. He taught at Ohio State University from 1947 to 1949, when he joined the music department of the University of Texas. Kennan has written numerous orchestral compositions, including *Symphony No. 1*, *Nocturnal Soliloquy*, *Promenade*, and *Air de Ballet*.

KENNEBEC RIVER, river, Maine, next to the Penobscot the most important in the state. Its principal source is Moosehead Lake, on the boundary between Somerset and Piscataquis counties. It flows southwest and south for about 150 miles and enters the Atlantic Ocean in Sagadahoc County through Sheepscott Bay, an irregular, island-studded indentation of the coast. The largest tributary of the Kennebec is the Androscoggin, which joins it 18 miles from the coast at Merrymeeting Bay. The outlets of a number of small ponds, and the Dead, Sebastook, and Sandy rivers also flow into it. The most important towns along its banks are Bath, Richmond, Gardiner, Hallowell, Augusta, and Waterville. It has been harnessed to supply power at Gardiner, Skowhegan, Waterville, Augusta, and Gardiner. The head of navigation is at Augusta, 42 miles from the sea, where there is a large dam (1870) across the river. The river is closed by ice at Hallowell from the middle of December to about April 1; below Bath it is open all seasons except in unusually severe winters.

The Kennebec was explored by Samuel Champlain in 1604-1605. Two years later George Popham and Raleigh Gilbert built a town at its mouth and established the first English colony in Maine. In 1628 a trading post was established in what is now Augusta by the settlers of Plymouth Colony. Later the river became an important waterway, and in the early part of the 19th century steamers plied between Augusta and Boston. With the development of railroads, river traffic declined, but the Kennebec gained new importance as a source of power for the lumber, paper, and textile industries.

KENNEBUNK, town, Maine, situated in York County, on the Mousam and Kennebec rivers, 22 miles south-southwest of Portland. It is served by the Boston and Maine Railroad and by buslines. The surrounding area contains dairy, poultry, and truck farms, as well as popular summer resorts. The town is a tail trading center and has industrial establishments producing shoes, trunks, leather twine, and lumber products. Kennebunk is one of the oldest towns in Maine, having been settled about 1650. It was part of the town of Wells until 1820, however, when it was separately incorporated. In colonial

was engaged in the West Indian shipping trade, and shipbuilding was carried on along the river front. There are a number of fine colonial and early federal homes. Pop. (1940) 3,698; (1950) 273.

KENNEBUNKPORT, town, Me., in York County; on the Atlantic Ocean, at the mouth of the Kennebunk River; about 3 miles southeast of Kennebunk (q.v.). Kennebunkport is a summer vacation resort, with elm shaded streets bordered by attractive homes, some of which were built in the 18th century, when the town was a shipbuilding center. It is a favored retreat of writers and artists, many of whom maintain summer homes here. To the south is Kennebunk Beach, with its rock promontories extending far into the ocean; and Porpoise Island, a noted fishing resort, lies to the north. There is a famous summer theater. Settled in 1629, incorporated as Cape Porpoise in 1753, and reincorporated as Arundel in 1717, the town has been called Kennebunkport since 1821. Pop. (1940) 1,448; (1950)

KENNEDY, SIR Alexander (Blackie William), English educator and engineer: b. Stepney, March 17, 1847; d. 1928. Graduated from Royal College of Mines he became a marine engineer with a reputation for inventiveness. Becoming professor of engineering at University College, London, he carried on his experiments there and established the first engineering laboratory. He did special and important work in devising means of testing machines of various kinds and he invented a recorder for testing the strength of materials. He designed lighting and power plants in Edinburgh, Manchester, Loch Leven, Calcutta, and Japan. He also acted extensively in the capacity of consulting engineer and was chief engineer to the Westminster Electric, Central Electric and St. James and Pall Mall Electric Supply companies, member of the Naval Boiler Committee, president of the Admiralty Committee on Machinery Design, associate member of the Ordnance Committee; member of Committee on Wireless Telegraphy; consulting electrical engineer to the London and North-Western and London and Southwestern railways and the London County Council Tramways; member of the Advisory Committee of the Ministry of Munitions, of the Munitions Inventions Panel, and vice chairman of the Anti-Aircraft Equipment Committee. He published *The Mechanics of Machinery* (1886); *Moore's Alps in 1864* (1902); a translation of Reuleaux' *Kinematik*; *from Ypres to Verdun* (1921); *Petra: Its History and Monuments* (1925).

KENNEDY, Archibald R. S., Scottish educator and Semitic scholar: b. White Hills, Warrington, Lancashire, 1859; d. Edinburgh, Oct. 25, 1938. He was educated at the universities of Aberdeen, Glasgow, Göttingen and Berlin (1875-1885). In the latter year he became Fellow of Glasgow University (1885-1887), going to Aberdeen University three years later as professor of Semitic languages (1887-1894); and in 1895 to University of Edinburgh as professor in the same capacity (to 1937). Among his published works are a series of grammars in the *Porta Linguarum Orientalium Series*, including Hebrew (1885); Syriac (1889); Assyrian (1890), and Arabic (1895); *Exodus* (in Temple Bible, 1901); *Joshua and*

Judges (1902); *Samuel* (1905); *Leviticus and Numbers* (in Century Bible, 1910). He also contributed extensively to Hastings' *Dictionaries of the Bible*; and the *Encyclopaedia Biblica*.

KENNEDY, Benjamin Hall, English educator and classical scholar: b. Birmingham, 1804; d. Torquay, April 6, 1889. Graduated from Cambridge in 1827 he became Fellow and lecturer in classics at Saint John's College in his alma mater; assistant master at Harrow, and head master of Shrewsbury School (1836-1866). In the latter year he became regius professor of Greek at Cambridge and canon of Ely the following year. In 1870 he became a member of the University Council, and also of the Committee on the Revision of the New Testament. He edited popular classical textbooks; made translations from Greek and Hebrew into English and wrote poetry in Latin, Greek and English, a volume of which was published in 1882 under the title of *Between Whiles*.

KENNEDY, Charles Rann, Anglo-American dramatist: b. Derby, England, Feb. 14, 1871; d. Los Angeles, Feb. 16, 1950. He began life as an office boy, largely educated himself and early began lecturing and writing. He later became an actor and press agent and theatrical business manager. This led to the production of dramas for the stage with which he combined the writing of short stories, critical articles and poems. Among his dramas are *The Servant in the House* (1908); *The Winter Feast* (1908); *The Terrible Meek* (1911); *The Necessary Evil* (1913); *The Idol-Breaker* (1914); *The Rib of the Man* (1916); *The Army with Banners* (1917); *The Fool from the Hills* (1919); *The Chastening* (1922); *The Admiral* (1923); *The Salutation* (1925). All of his plays deal with problems of society. He married Edith Wynne Mathison, the actress, in 1898.

KENNEDY, Grace, Scottish novelist: b. Pinmore, Ayrshire, 1782; d. Edinburgh, Feb. 28, 1825. Her novels, which are of a decidedly religious cast, were very popular in her day, though now when the age has become more liberal, they have lost most of their interest and are very little read. Her works, which have been translated in full into German, and in part into several other languages, show considerable talent and depict the religious spirit of her age in Scotland very well. They will, therefore, be of a secondary interest at least, to students of the religious tendencies of the first quarter of the 19th century. Her most popular story, *Father Clement* (1823), is strongly anti-Roman Catholic, and for this reason and on account of the vividness of the characters and situations, became immensely popular and was translated into most of the languages of Europe. Among her other novels are *Anna Ross*, *Dunallan*, *Jessy Allan*, and *Decision*. The best edition of her works is that published in Edinburgh in 1827.

KENNEDY, SIR James Shaw, British soldier and military writer: b. Straiton parish, Ayrshire, Oct. 13, 1788; d. Bath, Eng., May 30, 1865. His family name was Shaw and the Kennedy was added afterward. He became a general in 1863 after having seen much military service abroad in the Wellington Peninsular campaigns. His *Notes on Waterloo* were published

in 1865. He also left an autobiography; 'A Plan for the Defense of Canada'; and 'Notes on the Defense of Great Britain and Ireland' (1859), the latter of which has been frequently reprinted.

KENNEDY, John, Scottish religious writer: b. Aberfeldy, Perthshire, 1813; d. 1900. Educated at Aberdeen, Glasgow and Edinburgh universities he became a Congregational minister stationed in Aberdeen (1836-46). In the latter year he went to London to Stepney Congregation (1846-82). There he became professor of apologetics at New College (1872-76) and chairman of the council of that institution (1884-95) and was editor of *The Christian Witness* (1866-73) and *The Evangelical Magazine* (1887-90). Among his published works are 'The Divine Life' (1858); 'A Handbook of Christian Evidence' (1880); 'The Gospels; their Age and Authorship' (1884); 'Old Testament Criticism and the Rights of Non-Experts' (1897).

KENNEDY, Sir John, Canadian engineer: b. Spencerville, Ontario, 26 Sept. 1838; d. Montreal, 25 Oct. 1921. He was educated at McGill University, he became assistant city engineer of Montreal in 1863; division engineer (1871) and chief engineer of the Great Western Railways of Canada (1872-75); chief engineer of the Montreal Harbor Commission (1875-1907) and consulting engineer of same after 1907. Among his important public works are the deepening to 27½ feet of the ship canal between Montreal and Quebec and all the improvements made in Montreal harbor for nearly a third of a century. As a member of numerous important engineering committees, among them those on Lachine Canal, Floods at Montreal and Trent Valley Canal System, all of them royal commissions, he influenced many public undertakings in Canada.

KENNEDY, John Pendleton, American novelist: b. Baltimore, Md., 25 Oct. 1795; d. Newport, R. I., 18 Aug. 1870. He was graduated at Baltimore College in 1812, and in 1814 served as a volunteer in the ranks, taking part in the battles of Bladensburg and North Point. In 1816 he was admitted to the practice of the law, which he followed successfully for 20 years. In 1818 he commenced authorship, by the publication, in connection with his friend Peter Hoffman Cruse, of the 'Red Book,' a serial of light character in prose and verse issued about once a fortnight, and continuing two years. In 1820 he was elected to the Maryland house of delegates, and re-chosen the two next years. In 1832 he published his first novel, 'Swallow Barn, or a Sojourn in the Old Dominion,' descriptive of the plantation life of Virginia. In 1835 appeared 'Horseshoe Robinson, a Tale of the Tory Ascendancy,' the most successful of his writings. In 1838 he published 'Rob of the Bowl, a Legend of Saint Inigoes,' relating to the Maryland province in the days of Cecilius Calvert, second Lord Baltimore. Kennedy was a member of Congress 1839-45, and was prominent among the Whig members. In 1849 appeared his 'Life of William Wirt, Attorney-General of the United States,' and in 1852 he became Secretary of the Navy. His works not previously named include 'Annals of Quodlibet' (1840); 'Mr. Ambrose's Letters on the Rebellion'

(1865). He was a friend of Thackeray, and wrote or sketched in outline the fourth chapter of the second volume of 'The Virginians. Consult 'Life' by Tuckerman. See HORSESHOE ROBINSON.

KENNEDY, John Pitt, an Irish author, educator and engineer: b. Donogh, Donega County, Ireland, 1796; d. 1879. He superintended harbor construction in many parts of the world and built lighthouses, roads and quays. He was sub-inspector of militia in the Ionian Isles (1828-31). After a long absence from the army he returned to it in 1849, serving as secretary to Sir Charles Napier whom he accompanied to India. There Kennedy superintended the construction of the military road from Kalka, through Simla and Kuma-wur to Tibet. John Pitt Kennedy, notwithstanding the importance of his public engineering works, is best remembered on account of his efforts to settle, in a sensible way, the Irish question. He returned to Ireland in 1831; and he was at once struck with the lamentable condition of the people and filled with a desire to remedy it. He realized that any permanent improvement in the Irish situation must be preceded by a betterment of agricultural conditions. He seems to have got nearer the heart of the Irish people than any previous reformer and to have realized that the British method of dealing with the people had been largely faulty if not vicious. He became convinced that force would never conquer Ireland though it might hold her in subjection indefinitely. In 1835 he published a book which embraced his ideas on Ireland, and which bore the curious though very suggestive title 'Instruct, Employ; Don't Hang Them: or Ireland Tranquilized without Soldiers and Enriched without English Capital.' As inspector general of Irish Education, for a time; secretary of the Devon Commission (1843); and the Famine Relief Committee (1845) he labored to improve agricultural and social conditions and to advance public instruction in Ireland. To this end he wrote several works, all dealing with the problems he found in Ireland and suggesting solutions. He also wrote technical engineering works and was publisher and editor of the *British Home and Colonial Empire*.

KENNEDY, John Stewart, Scottish-American philanthropist: b. near Glasgow, Scotland, 1830; d. 1909. At the age of 24 he came to New York as the representative of a London iron firm. There he entered the firm of Morris K. Jesup in which he remained until 1867. On his retirement he began the reorganization of concerns on trouble through mismanagement or other causes; and was receiver for numerous concerns, among them The New Jersey Central Railroad; and in these enterprises he eventually made a large fortune; the greater part of which he expended in charities and in the encouragement of education. Of the \$30,000,000 which he is credited with having disposed of in this way he gave by will to Columbia University, the New York Public Library, the Metropolitan Museum of Art, Presbyterian Board of Home Missions, Presbyterian Board of Foreign Missions, the Presbyterian Church Erection Fund and the Presbyterian Hospital, \$2,500,000, or a total \$17,500,000. His will also provided for many

gifts to colleges ranging from \$1,500,000 to 50,000.

KENNEDY, Joseph Camp Griffith, American statistician: b. Meadville, Pa., April 1, 1813; d. July 13, 1887. He practiced law for a time, edited country newspapers, and finally, in 1849, assumed charge of the reorganization of the United States Census Bureau; and 10 years later became head of the census. He was largely instrumental in the holding of the Congress of statisticians held in Brussels in 1853. Later on he became examiner of national banks. To him the United States owes much of her early organization of statistical reports of all kinds.

KENNEDY, Thomas Francis, Scotch reformer: b. Greenan, near Ayr, Nov. 11, 1788; d. Dalquharran Castle, April 1, 1879. Graduated in law from Edinburgh University he went into politics and became a member of the Parliament in 1818. He became greatly interested in political reforms and in these matters he saw more clearly than most of his fellow members of Parliament. He obtained numerous rights for prisoners, among them that of peremptory challenge under a ballot method for the selection of jurors. He was largely instrumental in securing the extension of the franchise, the abolition of religious disabilities, the extinction of the Scottish Court of the Exchequer and the lowering of the duties on corn (that is, grain).

KENNEDY, William, Irish poet and prose writer: b. Dublin, Dec. 26, 1799; d. Paris, 1871. Educated at Belfast College, he drifted into literature, working on the *Paisley Magazine*, Scotland. Following this he pursued literature in London until 1838 when he accompanied Lord Durham as secretary to Canada, going to Texas in 1841 and becoming British consul at Galveston (1842-1849). In the latter year he was retired on a pension which allowed him to devote his time to literary work. He returned to London and finally went to reside in Paris.

Among his published works are *Fitful Fancies* (1827); *The Arrow and the Rose and Other Poems* (1830), both volumes of lyrical poetry for most part; *The Siege of Antwerp* (drama); *The Rise, Progress and Prospects of the Republic of Texas* (2 vols., 1841).

KENNEDY, William Sloane, American author: b. Brecksville, Ohio, 1850; d. West Yarmouth, Mass., Aug. 4, 1929. Educated at Yale and Harvard he joined the staff of the *Boston Transcript*, and later devoted considerable time to magazine work, criticisms, translation from French and Italian and published original works. Among the latter are *Henry Wadsworth Longfellow* (1882); *John Greenleaf Whittier* (1882); *Wendell Holmes* (1883); *Wonders and Vicissitudes of the Railway* (1884 and 1906); *John Whittier, the Poet of Freedom* (1892); *Reminiscences of Walt Whitman* (1896); *In Portia's Gardens* (1897); *Walt Whitman's Diary in Canada* (1904); *After Death—What?* (1909).

KENNELLY, Arthur Edwin, Anglo-American engineer: b. Bombay, India, Dec. 17, 1861; d. Boston, Mass., June 18, 1939. He was educated in France and England, and after extensive experience in the latter country, came to the United States in 1887 as principal assistant to Thomas A. Edison. He practiced as a con-

sulting engineer in Philadelphia, 1894-1901, and was professor of electrical engineering at Harvard University, 1902-1930, and also during 1913-1924, at Massachusetts Institute of Technology, where he was director of electrical engineering research and chairman of the faculty from 1917 until 1919. Important public works with which he was connected include the laying of the Vera Cruz-Frontera-Campeche cables for the Mexican government in 1903. In 1902 he announced the probable existence of an outer layer of ionized atmosphere favorable to radio-wave propagation now known as the ionosphere. Six months later Sir Oliver Heaviside (1850-1925) of England working independently of Kennelly made a similar announcement. In honor of these two distinguished discoverers, this region is often referred to as the Kennelly-Heaviside layer. See also IONOSPHERICS. Among Kennelly's works are *Notes for Electrical Students* (a collaboration with Wilkinson); *Theoretical Elements of Electro-Dynamic Machinery* (1893); *Electrical Engineering Leaflets* (in collaboration with Edwin J. Houston, 1897); *Electro-Dynamic Machinery* (1899); *Electricity Made Easy* (1899); *The Interpretation of Mathematical Formulæ* (1899); *Wireless Telegraphy* (1907); *The Application of Hyperbolic Functions to Electrical Engineering Problems* (1911); *Artificial Electric Lines* (1917); *Electrical Vibration Instruments* (1923); *Electric Lines and Nets* (1929).

KENNET, river, England. It rises in Wiltshire, flowing east through Berkshire, emptying into the Thames at Reading, after a course of 46 miles. It is a part of the waterway connecting the North Sea with Saint George's Channel.

KENNETH, kēn'ēth, the name of two kings of Scotland. **KENNETH I**, called **MACALPINE** (d. 858 A.D.) is the traditional founder of the Scottish kingdom. At first his influence extended over a restricted territory in Galloway; but this he gradually extended by successful military expeditions which resulted in the expulsion of the Danes (841) and the union of the Scottish and Pictish principalities. He made Dunkeld the ecclesiastical capital of his enlarged domains; and to this new capital he removed the relics of Saint Columba. This made the city the center of increased ecclesiastical activity which served as an inspiration to the Christians to maintain a desperate struggle against expiring paganism. Kenneth, among his other warlike activities, made six expeditions against Lothian, into which he penetrated on each occasion.

KENNETH II (d. 995 A.D.), son of Malcolm I, consolidated his lands but his reign (971-995) was one of continued warfare with the Norsemen on the one hand, and the Britons of Strathclyde and the English of Northumbria on the other. Later chroniclers say he was murdered by his own subjects, instigated by Fenella, daughter of a high steward of the earl of Angus. See **SCOTLAND—Civil History**.

Consult Lang, Andrew, *History of Scotland*, or any other good history of Scotland.

KENNETT, Robert Hatch, English educator: b. St. Lawrence, Ramsgate, 1864; d. Feb. 15, 1932. Educated at Cambridge, he served in that institution as chaplain, lecturer in Hebrew and Syriac (1887-1893); and lecturer in Aramaic (1893-1903), becoming, on the lat-

ter date, regius professor of Hebrew; canon of Ely (1905); Schweich lecturer (1900), and Bishop of Manchester (1913).

Among his publications are *The Hebrew Tenses* (1901); *In Our Tongues* (1907); *The Servant of the Lord* (1911); *The Composition of the Book of Isaiah in the Light of History and Archaeology*; *The Last Supper* (1921). He contributed to the *Journal of Theological Studies*; the *Encyclopedia Americana*; *Hastings' Encyclopedia of Religion and Ethics*; the *Hibbert Journal*, and other publications of a like nature.

KENNETT, White, English Episcopal prelate and writer: b. Dover, Aug. 10, 1660; d. Westminster, Dec. 19, 1728. Graduated from Oxford he entered the Church of England where he distinguished himself as a preacher, antiquarian, theologian and historian, and also on account of his strongly-pronounced anti-high church attitude. Rector of Ambrosden (1685); tutor and vice principal of Edmund Hall, Oxford (1691); archdeacon of Huntingdon (1701); dean of Peterborough (1707); bishop of Peterborough (1718); he made his mark upon the church politics of his day in England.

Among his numerous works are *Parochial Antiquities* (1695, 1818); vol. 3 (Charles I—Anne) of the *Compleat History of England* (1706); *A Register and Chronicle, Ecclesiastical and Civil, from the Restoration of King Charles II* (1728). Many of his historical and other valuable manuscripts are in the Lansdowne collection in the British Museum. His life was written by the Rev. William Newton (London 1730).

KENNETT, kĕn'ĕt, -ĭt, city, Missouri, Dunklin County seat, is located 42 miles southeast of Poplar Bluff, on the St. Louis-San Francisco Railway, in a cotton-growing area. Industries are cotton ginning and compressing, and shirt manufacturing. Pop. (1950) 8,685.

KENNETT SQUARE, borough, Pennsylvania, Chester County, is located 35 miles south of Philadelphia and 12 miles northwest of Wilmington, Delaware, on the Pennsylvania Railroad. The main industry is the raising and packing of mushrooms; there is a large greenhouse industry specializing in roses and carnations; machinery, fiber products, and hosiery are manufactured. It was incorporated March 13, 1855. Pop. (1950) 3,699.

KENNEWICK, kĕn'ĕ-wĭk, city, Washington, Benton County, is located on the Columbia River opposite Pasco, and is a river port for barges. It is in a fruit, dairy, and wheat region, and there is an atomic energy installation nearby. The city was incorporated in 1904. Pop. (1940) 1,918; (1950) 10,106.

KENNEY, kĕn'ĭ, **Charles Lamb**, English author and journalist, son of the Irish dramatist, James Kenney (q.v.): b. Bellevue (near Paris, France), April 29, 1821; d. Kensington, Eng., Aug. 25, 1881. He began active life as a clerk in the London general post office; and while there devoted his spare time to writing for the local press, soon becoming dramatic critic and assistant foreign editor of the *London Times*. In the meantime he studied law and was admitted to the bar in 1856, and did much to influence public opinion in favor of the Suez Canal.

Among his published works are *The Gates of the East* (in support of the building of the Suez Canal, 1857); *M. W. Balfe* (1875); *Balzac's Correspondence* (a translation, 1878), and light verse, and several very good light operas and musical sketches which were popular in their day.

KENNEY, James, British dramatist: b. Ireland, 1780; d. Brompton, Eng., July 25, 1849. Beginning as a bank clerk in London, where his father was manager of Boodle's Club, he gave more attention to amateur acting and play writing than to the banking business, which he soon gave up for dramatic writing. His plays were very popular in his day and some of them are still seen upon the stage. He had excellent dramatic talent and the power of character development.

Among his numerous plays the most popular and successful are *Turn Him Out* (a musical afterpiece, 1812); *Love, Love and Physic* (1812); *Sweethearts and Wives* (1823); *The Illustrious Stranger* (1827); *Masaniello* (1829); *Sicilian Vespers* (1840); *Infatuation* (1845).

KENNICOTT, kĕn'ĭ-kŭt, **Benjamin**, English clergyman and scholar: b. Totness in Devonshire, Eng., April 4, 1718; d. Oxford, Eng., Aug. 18, 1783. He was educated at the grammar school in Totness and at Oxford where he was elected fellow of Exeter College in 1747. He was Radcliffe librarian at Oxford 1767-1783, and from 1770 was Canon of Christ Church there. He is best known for his critical study of original Hebrew texts of the Old Testament begun in 1751 and culminating in the publication of his great work, *Vetus Testamentum Hebraicum cum Variis Lectionibus*, 2 vols. (Oxford 1776, 1780).

Besides this major work and numerous letters, dissertations and sermons his published works include: *Poem on the Recovery of the Hon. Mrs. Elizabeth Courtenay* (1743); *On the Oblation of Cain and Abel* (1747); *The State of the printed Hebrew Text of the Old Testament considered, a Dissertation* (1753); *On the Collation of the Hebrew Manuscripts of the Old Testament* (1770). The bulk of his collations, codices, correspondence, and other papers are in the Bodleian Library.

KENNY, kĕn'ĭ, **Courtney Stanhope**, English legal scholar: b. Halifax, Yorkshire, March 18, 1847; d. Cambridge, March 18, 1930. He was educated at Downing College, Cambridge, where he was elected fellow (1875). He was University Reader in English Law (1888-1907) and Downing Professor of Laws of England (1907-1918). His *Outlines of Criminal Law* (1902, 14th ed. 1932) is a legal classic.

KENNY, Sir Edward, Canadian statesman b. County Kerry, Ireland, July 1800; d. Halifax Nova Scotia, May 16, 1891. He removed to Halifax in 1824, where he engaged in business. He was member for 26 years of the legislative council of Nova Scotia, during 11 of which he was president; served as receiver-general of Canada (1867-1869); president of the council (1869-1870); and senator (1867-1876). He was knighted in 1870.

KENNY, Elizabeth, Australian nurse: b. Warialda, New South Wales, Australia, Sept. 20, 1886; d. Toowoomba, Queensland, Australia Nov. 30, 1952. Widely known for her method of

eatment for infantile paralysis victims, consisting of stimulation and re-education of affected muscles, she was the subject of much medical controversy. In 1944 a committee of orthopedic physicians of the American Medical Association criticized her claims that 80 per cent of the patients under her system recover without paralysis as compared with only 13 per cent under the orthodox method of immobilizing the paralyzed limbs with casts and splints. Sister Kenny (in Australia all nurses are called sister) opened a clinic in Townsville, Queensland, in 1933, but it was not until 1939 that her treatment was made available, upon the patient's request, in all Australian hospitals. In 1940 she began her work in the United States using facilities of the University of Minnesota and the Minneapolis General Hospital and in 1943 an Elizabeth Kenny Institute was established in Minneapolis. She was the author of *Infantile Paralysis and Cerebral Diplegia* (1937); *Treatment of Infantile Paralysis in Acute Stage* (1941); with John F. Pohl, *Kenny Concept of Infantile Paralysis and Its Treatment* (1943); with Martha Ostenso, *And They Shall Walk* (autobiography, 1943).

KENORA, kě-nōr'ā, formerly RAT PORTAGE, town and port of entry, Ontario Province, Canada, capital of Kenora district; altitude, 1,087 feet; is located at the outlet of the Lake of the Woods, 126 miles east of Winnipeg, on the Canadian Pacific Railway and the Canadian Pacific Airlines. It is a shipping point for gold mines to the north. The Winnipeg River with a depth of 16 feet from the lake furnishes Kenora and neighboring Keewatin with abundant power for sawmills, flour mills, pulp and paper mills. Fishing, especially for sturgeon, is a major industry; there is a government fish hatchery here; and the tourist trade for hunting and fishing is important.

The Hudson's Bay Company trading post at Rat Portage was the scene of serious riots in 1883 in the boundary dispute between Ontario and Manitoba. It joined Norman and became an Ontario town in 1892 with the name Kenora formed by combining the first two letters of Keewatin, Norman, and Rat Portage. Pop. (1951) 8,695.

KENOSHA, kě-nō'shā, city, Wisconsin, Kenosha County seat, altitude 587 feet, is located on Lake Michigan, 28 miles south of Milwaukee, on the Chicago and North Western Railway; and the electric railways, the Chicago North Shore and Milwaukee, and the Milwaukee Electric. It has an excellent harbor open throughout the year, and is an industrial center producing automobiles, brass and copper goods, re engines, furniture, mattresses, tools, underwear, wire rope, and other manufactured goods. It is also a trade and recreation center for a productive agricultural area; 83 per cent of its lake shore is municipally owned and has been developed for bathing and other park and recreational purposes. Around its civic center are located the county court house, the Kenosha Historical and Art Museum, the post office, and high school.

Settled in 1835 as Pine Creek Village, renamed Southport in 1837, it was chartered as the city of Kenosha in 1850. It has city manager government. Pop. (1950) 54,368.

KENOSIS, kē-nō'sis (Greek, an emptying, a depletion), the self-renunciation and self-limitation of the Son of God manifested in the incarnation. Even in very early Christian times there were at least three distinct views held as to the relation of the God-Christ to the man-Christ. These views were influenced by the Jewish conception of a traditional Christ, the Egyptian doctrine of the incarnation of Osiris, son of the great sun god, Ra, and the speculations of the Romans, Greeks and Persians as to the nature of their own gods which strangely mingled human with divine attributes. From Egypt, Rome and the Eastern Empire came views of the *kenosis*, influenced by local traditions and the early training and education of the contestants, in the days when Christian theology and dogma were in the making. The mystery of the self-emptying of the divine manner of being that took place at the incarnation of the second person of the trinity; the laying aside of the eternal and the assumption of a time form of existence formed an ever-fruitle subject of speculation in an age long given to speculation as to the manner of being of all things divine.

Christianity introduced a new feature in the speculation, that of the self-abasement of the God-Christ, a feature upon which the Christians laid great stress, no doubt owing to the strong character of Paul and some of the earlier fathers who linked the historical Christ firmly with the Jewish traditional Christ. This linking of the two created a wide field for speculation as the subject was viewed from the Jewish or the Christian point of view or it was influenced by the traditions and philosophical speculations of the scholars of the Eastern and the Western empires and the mythological conceptions of the new converts to Christianity in Egypt and from among the Germanic and other races of Europe and southwestern Asia.

The relation of the incarnate God to His own self-abasement in the assumption of humanity and the occultation of His own divinity; the restrictions, pains and penalties to which He submitted during His earthly life; and the exhibition of His divine power on noted occasions like the resurrection, ascension and transfiguration introduced a new element into the religious speculation of the early centuries of Christianity, an element that proved very attractive to the mystical, speculative spirit of the age with which Paul seems to have been well acquainted. Speculation concerned itself as to what extent the God-Christ laid aside His divine form of existence, dignity and glory on becoming incarnate; and as to how much of the divine essence He divested Himself of in the *kenosis*. Some speculative theologians maintained that the *kenosis* consisted in the simple laying aside the attributes of divine glory and the divine form of existence. Others held that with these went the divine power which could not be a co-dweller with incarnation; and that Christ's miracles were performed not by power that He had retained from his divine existence, but through the power that came to Him from God the Father. Other theologians went the extreme limit and upheld the doctrine that, at the incarnation, the Son of God completely emptied Himself of the divine essence, thus altogether suspending the union and the divine functioning of the trinity during His incarnate existence.

upon earth. Between these three more or less distinct views of the relation of Christ to his incarnation, there were various different shades of opinion, most of them influenced by the speculative thought of the age and the popular and the priestly doctrine of a paganism still vigorous in many strongholds. The Eastern and Western churches held different views of the *Kenosis*; and the opinions of the early church fathers did not agree with those who followed Augustine. The word *Kenosis* is really the modern application of an old term which, if not nominally so extensively employed, was virtually as widely used. The modern idea of the doctrine of the *Kenosis*, which is Protestant, and especially Lutheran, is based on the statement of Paul, who said that Christ "being in the form of God, thought it not robbery to be equal with God, but made himself of no reputation and took upon him the form of a servant" (Philippians 2:6-8).

Modern Doctrine.—As early as 1832 Ernst Saritorius and Johann König each separately applied the expression of *Kenosis*, almost in the sense of a doctrine, to the Christ. Little by little the term and what it stood for gained ground, especially among Lutheran theologians, until in 1845 it had assumed the form of a doctrine widely accepted in Protestant Germany. The position taken by those who adhered to the modern doctrine of *Kenosis* was that there is a perfect oneness in the person of Christ; since by his own will and in his divine form he laid aside the fullness of his divine nature insofar as all its external relations were concerned, thus making it possible for him to become fully incarnate, that is human, and capable of human existence and development. The doctrine of *Kenosis*, however, recognizes that Christ retained the use of his divine power for such special cases as were necessary for the redemption of his work. Reformed and United theologians followed the Lutheran leaders in their discussions and explanations of *Kenosis*, which its defenders claimed was the natural outcome of the previous development of dogma. In this view they are mistaken, since early orthodox exegesis was in no sense kenotic, nor were new theories, for a long time, kenotic. The idea that Christ left all his divine power behind him on his incarnation, obtained no hold in Christian theology previous to the 19th century. In fact the tendency of belief was to hold that, even on earth the glory and the power of Christ were still intact and that a veil had been drawn over them. This veil might be partially drawn, revealing glimpses of the divine power. Even John Calvin, the iconoclast in many other respects, seems to have held this view.

KENRICK, Francis Patrick, American Roman Catholic prelate: b. Dublin, Ireland, Dec. 3, 1796; d. Baltimore, Md., July 8, 1863. In 1815 he went to Rome to study for the priesthood, becoming ordained in 1821. The same year he was sent to the United States to become head of a newly founded theological seminary at Bardstown, Ky. Appointed in 1830 coadjutor bishop of Philadelphia, Pa., during the cholera epidemic of 1832 and the anti-Catholic riots of 1844 he was of considerable assistance to the civic authorities. He founded the Theological Seminary of Saint Charles Borromeo in 1838, and six years later introduced the order of

Hermits of Saint Augustine into his diocese. In 1851 he was consecrated archbishop of Baltimore, Md., and the following year presided over the first plenary council of American Roman Catholic prelates.

KENRICK, Peter Richard, American Roman Catholic prelate: b. Dublin, Ireland, Aug. 17, 1806; d. Saint Louis, Mo., March 4, 1896. After studying for the priesthood at Maynooth he was ordained in 1830, and three years later he went to the United States to join his brother, Francis Patrick Kenrick (q.v.), in Philadelphia, Pa. He was professor of dogmatics in the seminary of the diocese and assistant pastor at the cathedral, and subsequently became vicar general of the diocese of Philadelphia. In 1841 he was appointed coadjutor to Bishop Joseph Rosati of Saint Louis, Mo., and in 1843 succeeded to the bishopric. When Saint Louis was created an archiepiscopal see in 1847 he became first archbishop. He was opposed to the doctrine of papal infallibility, not objecting to its truth but to the necessity for official declaration. Nevertheless he gave it his acquiescence when it was decreed by the Ecumenical Council. (Consult O'Shea, J. J., *The Two Kenricks* (Philadelphia, 1904).)

KENSAL GREEN, a famous cemetery in London, England, located in the boroughs of Kensington and Hammersmith. Although it comprised 56 acres when it was opened in 1838, the cemetery has been increased to 70 acres. Illustrious people buried here include William Makepeace Thackeray, Leigh Hunt, Wilkie Collins, Anthony Trollope, Thomas Hood, and Charles Kemble. The cemetery was damaged considerably by bombings during World War II.

KENSETT, John Frederick, American landscape painter: b. Cheshire, Conn., March 22, 1816; d. New York City, Dec. 14, 1872. His uncle, Alfred Daggett, an engraver, gave him his first lessons in art, but in 1840 he went abroad and for seven years traveled in England, Switzerland, and Italy. The fruit of this travel was a large number of sketches and paintings, out of which he exhibited in 1845 in the Royal Academy. The sale of one of his pictures, view of Windsor Castle, encouraged him to persevere. On returning to the United States he lived chiefly in New York. His *View on the Arno* and *Shrine*, exhibited in New York in 1848, established his reputation in America, and he was elected in 1849 a National Academician. His landscapes are more remarkable for sweetness than for strength, but he maintains a uniform standard of merit in all of them. His technique is delicate and refined, especially in his small canvases. He delights in the scenery of the Hudson, and of the seacoast, and some of his effects are exquisitely charming. Among his landscapes the most interesting are *Sunset on the Coast* (1858); *October Afternoon* (1864), both in the Corcoran Gallery, Washington; *Noon on the Seashore*, which has been engraved by Hunt. More than 40 of his pictures are in the Metropolitan Museum of Art, New York, the finest of them being *White Mountains*, a masterpiece of its class. He was for some years a member of the national art commission appointed to direct the decoration of the Capitol at Washington, D.C.

KENSINGTON, England, a royal borough of London, located on the north side of the Thames River west of the heart of the city. It is bounded by the boroughs of Paddington on the north, Westminster on the east, Chelsea and Fulham on the south, and Hammersmith on the west. It covers an area of 2,291 acres and includes a high proportion of parks and gardens. It consists, for the most part, of pleasant, quiet, residential districts with their own complete shopping centers.

In the 17th century, William III purchased Nottingham House, a mansion on the edge of Kensington Gardens (q.v.), to which additions and alterations were made by Sir Christopher Wren, and which later became Kensington Palace. It was one of the favorite royal residences of Queen Victoria, who was born there and later spent a great deal of her time there as queen. Isaac Newton, Joseph Addison, the essayist, Talleyrand, Thackeray, John Stuart Mill, and John Richard Green, the historian, all lived for a time in Kensington. Within its limits are located the Victoria and Albert (formerly South Kensington) Museum, the Natural History Museum, the Geological Museum, the Science Museum, and the Imperial Institute. Kensington's 1945 population was 34,650; the borough returns two members to the House of Commons.

Air raids during World War II caused scattered destruction in Kensington. Holland House, built in 1607, which passed into the possession of Henry Rich, Earl of Holland, and was leased to one period by William Penn, of Pennsylvania, was probably the most severely damaged familiar landmark. Bombed on two different occasions, the entire section was burned to the ground. The Natural History Museum, hit by a high-explosive bomb and twice by V-1's, suffered all more from the many incendiaries which struck it. Though most of the exhibits had been removed, others were damaged or destroyed.

KENSINGTON GARDENS, a public park in London between Kensington Palace and Hyde Park, originally constituted the grounds of the palace. The nucleus, 26 acres in extent, was bought by William III from Lord Chancellor George Finch; Queen Anne added 30 acres, and Queen Caroline 200 acres. The Round Pond (which is actually octagonal), the Sunken Garden, the Long Water (extension of the serpentine, in Hyde Park), and the Broad Walk are features of interest. The gardens were opened to the public in the 18th century. Thomas Tickell (q.v.), in a poem published in 1722, imagined the gardens as peopled by person and his fairies. The scene of the story *The White Bird* (1902) was laid in Kensington Gardens by Sir James Barrie, and this formed the basis for his delightful play *Peter Pan* (q.v.); a statue of the hero, by Sir George Frampton, was erected near the Long Water in the gardens in 1912. Other statues in Kensington Gardens include a bronze figure by George Frederic Watts (q.v.), representing *Physical Energy*, a replica of the original erected at Groote Schuur, South Africa, in memory of Cecil Rhodes.

KENT, (Arthur) Atwater, American manufacturer: b. Burlington, Vt., Dec. 3, 1873; d. Hollywood, Calif., March 4, 1949. Educated at

the Worcester (Mass.) Polytechnic Institute, he established the Atwater Kent Manufacturing Works at Philadelphia in 1902 and began to manufacture telephones, voltmeters and, three years later, automobile equipment. His single-spark ignition system earned him the Franklin Institute's John Scott Medal in 1914. During World War I he made panoramic gun sights, clinometers and fuse setters for the armed services. In 1919 he incorporated the Atwater Kent Manufacturing Company which in 1923 commenced manufacturing radios. Having accumulated a large fortune by 1936, he retired to California where he established the Atwater Kent Foundation and devoted the remainder of his life to philanthropic interests.

KENT, Charles Foster, American Biblical scholar: b. Palmyra, N. Y., Aug. 13, 1867; d. May 2, 1925. He was graduated at Yale in 1889 and Berlin in 1892, and the following year became an instructor in the University of Chicago. In 1895 he was appointed professor of Biblical literature and history at Brown University; and from 1901 until his death he was Woolsey professor of Biblical literature at Yale.

KENT, Edward Augustus, DUKE OF, English prince: b. Nov. 2, 1767; d. Sidmouth, Devonshire, Jan. 23, 1820. The fourth son of George III, he entered the British Army and served in the French West Indies and elsewhere. In 1790 he commanded the 7th Foot at Gibraltar but, owing to his unpopularity, he was sent to Canada. He reached the rank of full general in 1799 and was made commander in chief of the forces in British North America, a post he vacated the following year. In 1802 he returned to Gibraltar as governor, but because of his severity he was removed in 1803. He was created field marshal in 1805. Prince Edward Island, the Canadian province in the Gulf of Saint Lawrence, was named for him. In 1818 he married Victoria Maria Louisa (1786-1861), daughter of Duke Francis, hereditary prince of Saxe-Saalfeld-Coburg, sister of Leopold I of Belgium, and widow of Emich Charles, hereditary prince of Leiningen-Dachsburg-Hardenburg; Alexandrina Victoria, their only child, became Queen Victoria of Great Britain.

KENT, George Edward Alexander Edmund, DUKE OF, English prince: b. Dec. 20, 1902; d. Scotland, Aug. 25, 1942. The fifth child of George V and brother of George VI, he was destined for a naval career but ill health terminated his studies. Subsequently he toured the world widely, visiting the United States several times. In 1934 Prince George (as he was then termed) was created duke of Kent, and the same year he married Princess Marina, daughter of Prince Nicholas of Greece. With outbreak of World War II he joined the Royal Air Force. He was killed in an airplane crash in the north of Scotland while en route to Iceland.

KENT, James, American jurist: b. Fredericksburg, N. Y., July 31, 1763; d. New York City, Dec. 12, 1847. After graduating at Yale University in 1781 he took up the study of law under Egbert Benson (q.v.). He was admitted to practice in 1785 as an attorney, and in 1787 as a coun-

sellor and commenced the practice of his profession in Poughkeepsie. He soon became remarkable among his contemporaries for his legal learning and literary attainments. He was elected successively in 1790 and 1792 a member of the legislature for Dutchess County. Kent became an active and leading Federalist, attracting the notice and confidence of Hamilton and Jay. It was by Hamilton's counsel that the reading of the young lawyer was directed to the doctrines of the civil law and the treatises of the jurists of continental Europe. In 1793 Kent removed to New York, was appointed one of the two masters in chancery for the city of New York. In 1796 he became a member of the legislature. He was also elected professor of law in Columbia College. The body of his lectures at Columbia formed in after years, in some degree, the basis of his celebrated *Commentaries*. In 1797 he was appointed recorder of the city and in 1798 judge of the Supreme Court. He continued a member of this tribunal till 1814, having been from 1804 chief justice. The Supreme Court at that time differed widely from the court as at present constituted. It was formed after the model of the English King's Bench, being composed of five judges, who rode the circuits to try jury cases, and convened during the year at four appointed terms to decide reserved questions of law. There were no American law books and no reports of American decisions, except those of Dallas just commenced. The proceedings of the court were languid and dilatory, and resort was had for rules of procedure and principles of law almost exclusively to English precedents and decisions. The accession to the bench of a young, energetic and able judge produced a striking change. By the constitution of New York as it then existed an important political duty was imposed on the judiciary of the state. The judges of the Supreme Court and the chancellor formed with the governor a council of revision with a qualified veto on legislative acts. This council was abolished in 1822. In 1814 Kent became chancellor and the seven volumes of Johnson's *Chancery Reports*, which contain Chancellor Kent's decisions, afford a profound exposition of the system of equity law. His term of office as chancellor expired in 1823, and returning to New York he resumed his professorship at Columbia and his lectures there were given to the world, in his *Commentaries on American Law* (1826-1830). This work has since passed through 14 editions and acquired a world-wide celebrity. It has assumed in the United States the position which Blackstone in his own country long filled by his *Commentaries on the Laws of England*. Consult Kent, William, *Memoirs and Letters of Chancellor Kent* (1898).

KENT, Rockwell, American artist and author: b. Tarrytown Heights, N. Y., June 21, 1882. He studied at the Columbia University School of Architecture. Best known as illustrator of magazine covers and de luxe reprints of American and European classics, he combines classical form with romantic feeling. Equally adept in the various media of oil, water color, pen-and-ink, wood block and lithography, his subjects include landscapes, seascapes, and powerful dramatic figures expressive of exalted or poignant moods. His copiously illustrated

travel and adventure books include *Voyaging Southward from the Strait of Magellan* (1924) N. by E. (1930) and *This Is My Own* (1940).

KENT, William, English artist, architect and landscape gardener: b. Yorkshire, 1684; d. London, April 12, 1748. He was apprenticed to a coachmaker in 1698, went to London in 1700, and there made some attempts at painting, and to Rome where he was a pupil of the Cavalier Luti, and whence he was brought back to England by the earl of Burlington, his patron for the rest of his life. He was employed in portrait-painting and the decoration of walls and ceilings, but Hogarth said that "neither England nor Italy ever produced a more contemptible dauber." However, he did invent a less formal method of gardening and planting and excelled as an architect. The Horse Guards and treasury buildings and Devonshire House, Piccadilly are his work. He published *Designs of Inigo Jones* (1727).

KENT, William, American engineer: b. Philadelphia, March 5, 1851; d. Sept. 18, 1918. Graduated Stephens Institute of Technology and Syracuse University, he became editor of the *American Manufacturer and Iron Works* (1877-79), at the same time exercising his profession of engineer from the latter date to 1880. Later he became editor of *Engineering News* (1895-1903) when he was chosen as dean of the L. C. Smith College of Applied Science, Syracuse University (1903-08). In 1906 he again became editor of the Industrial Section of the *Engineering News*. A lecturer on engineering subjects in several well-known colleges, he held numerous patents on his own inventions, and was well known as a contributor to encyclopaedias and technical magazines. Among his published works are *The Strength of Materials* (1879); *Strength of Hoisting Iron and Chain Cables* (1879); *The Mechanical Engineer's Pocket-book* (1895); *Steam Boiler Economy* (1901); *Investigating an Industry* (1915).

KENT, William Charles Mark, English poet and journalist: b. London, 1823, d. 1902. He entered journalism and soon became editor of the *Sun* (1845-70). He graduated in law in 1859, but did not give much attention to journalism and literature having much more attraction for him. He was a constant contributor to the magazines and literary columns of daily and weekly papers, and was editor of the *Roman Catholic Weekly Register* (1874-81). He published complete editions with memoirs and critical notes of famous British writers including Burns (1874), Lamb (1875), Moore (1879), Father Prout (1881), Lord Lytton (1875-98). Among his original publications are *Poems* (1870); *Leigh Hunt as an Essayist* (1888); *The Wit and Wisdom of Lord Lytton* (1883); *The Humor and Pathos of Charles Dickens* (1884).

KENT, a county of England, forming the southeast extremity of Great Britain and adjoining the counties of Essex (from which it is separated by the Thames), Middlesex, Surrey and Sussex. The Strait of Dover bounds it on the southeast. Its area is 1,525 square miles. Two principal ranges of hills, a continuation of the North Downs of Surrey and Hants

tend through the county from west to east, terminating in the cliffs of Dover, Folkestone, and Hythe. There are also a number of minor ranges. In the south are the Romney marshes and the tract called the Weald, which once contained extensive forests. In the north are the island of Sheppey, the former island of Thanet (now part of the mainland), and the mouths of the Medway, Stour, and Darent rivers.

Kent was the ancient country of Cantium (q.v.). It was at the mouth of the Stour in Kent that Hengist (q.v.) and his brother Horsa landed around 449 A.D., and the area was largely settled by Jutes. Kent was the earliest established kingdom of the Anglo-Saxon heptarchy and under King Ethelbert (r. 560-616) was the most powerful of the seven kingdoms. Ethelbert was converted to Christianity by St. Augustine or Austin in 597. Subsequently, the kingdom declined in power and, during the 8th century, lost its independence. After the Norman Conquest, Kent became an earldom, held at various times by Bishop Odo, the Holland family, and the Greys. In modern times, the title of duke of Kent was held by the father of Queen Victoria and the brother of King George VI.

The products of the county are varied. There are extensive market gardens and orchards, hops are raised, and there are many sheep and cattle farms. Paper, tiles, pottery, and gunpowder are manufactured, and there are numerous shipyards. The fishing industry is important. The capital is Maidstone. Among the major towns are the ports of Dover and Folkestone, the cathedral city Canterbury, and several well-known watering places, including Margate, Ramsgate, and Tunbridge Wells. In 1948, the parliamentary representation of Kent was increased to 18 (12 county constituencies and 6 borough constituencies), to take effect at the 1950 general election. Estimated civilian population (Dec. 31, 1948), 1,511,300. Consult Hasted, E., *The History and Topographical Survey of Kent* (Canterbury 1797-1801); *Victoria History of the County of Kent* (London 1908).

KENT, Ohio, city in Portage County, situated 10 miles northeast of Akron, on the Cuyahoga River, at an altitude of 1,070 feet. It is served by the Erie, Baltimore and Ohio, and Cleveland and Lake Erie railroads. There are manufactures of buses, electric motors, air compressors, automobile parts, locks, and furniture. The city is the seat of Kent State University, which until 1935 was a normal school. Settled in 1807, Kent was incorporated as a village in 1819, as a town in 1867, and as a city in 1923. It is governed by a mayor and council. Pop. (1950) 24,118.

KENT, Fair Maid of, the name given to Joan, wife of Edward, prince of Wales (the Black Prince), and mother of King Richard II. She was born in 1328, the daughter of Edmund of Woodstock, Earl of Kent, and was celebrated for her beauty. She died in 1385.

KENT ISLAND, the largest island in Chesapeake Bay, Md., some 15 miles long, situated 7 miles east of Annapolis. It was here that the first settlement in Maryland was made by William Claiborne (q.v.), in 1631. The largest town on the island is Stevensville; pop. (1950) 400.

KENTIGERN. See MUNGO, SAINT.

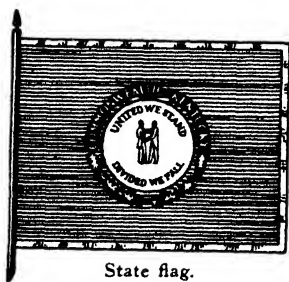
KENTON, Simon, American pioneer: b. Fauquier County, Va., April 3, 1755; d. Logan County, Ohio, April 29, 1836. At 16 he had an affray with a young man, and believing he had killed his adversary, fled beyond the Alleghenies and became a companion of Daniel Boone and other early pioneers of Kentucky. For a time he acted as a scout for Governor Dunmore of Virginia, and subsequently participated in the warfare waged against the British and the Indians west of the Alleghenies, showing remarkable courage, sagacity, and endurance. In 1782, learning that his former opponent was living, he returned to his native place and soon after moved with his father's family to Kentucky. He was frequently engaged in Indian warfare, until the expedition under Gen. Anthony Wayne in 1793-1794 restored tranquillity to the western frontier. As the country began to fill up with settlers his lands, to which, in consequence of his ignorance of or indifference to legal forms, he had never secured perfect titles, were taken from him, and by repeated lawsuits he was reduced to penury. In 1798 he moved to Ohio. He nevertheless in the War of 1812 fought with the Kentucky troops at the Battle of the Thames. In 1824, he appeared in Frankfort in tattered garments to petition the legislature of Kentucky to release the claim of the state upon some mountain land owned by him. His appearance at first excited ridicule, but upon being recognized he was treated with distinction by the legislature; his lands were released and a pension of \$240 was procured for him from Congress. He died near a spot where, 58 years before, he had narrowly escaped death at the hands of the Indians.

KENTON, Ohio, city and Hardin County seat, located on the Scioto River, 72 miles south of Toledo. It is served by the New York Central; Cleveland, Cincinnati, Chicago and St. Louis; and Erie railroads. Kenton is situated on the divide which separates the Ohio River and Lake Erie basins, in a fertile dairying, wheat, oats, and corn section. It is 10 miles east of one of the largest vegetable raising areas in the country, and nearby are limestone quarries. There are manufactures of flood control and hydrostation equipment, including electric cranes, hoists, and welders; machine tools; toys, novelties, and food products. Indian Lake State Park is 18 miles to the southwest. The city was laid out in 1833 and named for Simon Kenton (q.v.) Pop. (1950) 8,475.

KENT'S HOLE or **KENT'S CAVERN**, a station and cave near Torquay, Devonshire, England, noted for its implements of the Paleolithic and Neolithic periods. It has been actively explored several times since 1825. Under successive layers of limestone, black mold, stalagmite, and red cave earth lie the archaeological remains, which consist of bones of primitive horses, mammoths, wolves, lions, and rhinoceroses, together with stone implements of an early type. On the top of the red clay, in a deposit of black earth, evidently long exposed to the action of the air, are implements of the life of a comparatively early age in the history of human culture, such as flint chisels, scrapers, and bone and horn implements. This black deposit evidently represents a very considerable period of human prog-

ress, stretching from the Old Stone Age to the era of Roman occupation. The latter is represented by copper and bronze implements and weapons which naturally are found in the upper part of the layer. Human remains found in the cave include a brachycephalic skull, part of an upper jaw with teeth, and a jaw fragment with three teeth, all of the late Paleolithic type. The Torquay Natural History Society resumed excavations of the cave in 1926 jointly with a committee of the British Association.

KENTUCKY, kěn-tŭk'ī, one of the East South Central states. It is bounded on the northwest and north by Illinois, Indiana, and Ohio, the low-water mark on the north bank of the Ohio River forming the dividing line; on the east by West Virginia and Virginia; on the south by Tennessee; and on the west by Missouri, from which it is separated by the Mississippi River. The name Kentucky and its earlier forms, including Cane-tuck-ee, Cantucky, Kain-tuck-ee, and Kentuckee, have been accepted as either Iroquois or Cherokee in origin. Among meanings attributed to the name have been "dark and bloody ground," "prairie" or "meadow land," "barrens," "tomorrow," and "land of tomorrow."



State flag.

Land area	39,864 square miles
Water area	531 square miles
Total area	40,395 square miles
Latitude	36° 30'—39° 9' N.
Longitude	81° 58'—89° 34' W.
Altitude	257 feet to 4,150 feet
Population (1940)	2,845,627
Population (1950)	2,944,806
Capital city—Frankfort; Pop. (1950)	11,916
Admitted as a state	June 1, 1792
Bird	Kentucky cardinal, adopted Feb. 26, 1926
Flower	Goldenrod, approved March 1926
Motto	United We Stand, Divided We Fall
Nicknames—Bluegrass State; Corncracker State; Dark and Bloody Ground; Hemp State; Tobacco State	
Song—My Old Kentucky Home, adopted March 19, 1928	
Tree	No official tree



State seal.

Physical Characteristics.—Topography.—Kentucky resembles an irregular triangle, or, as Irvin S. Cobb (q.v.) described it, the figure of

a camel attempting to arise. Its greatest length from east to west is 425 miles; its greatest breadth is 180 miles. The state is divided into seven geological areas and ten soil groups. In the approximate center is the Bluegrass area, covering about 8,000 square miles. This is the location of the earliest settlements, and the center of the richest agricultural belt of modern Kentucky. Most of the soils in Fayette, Woodford, and Jessamine counties belong to the Trenton soil group. They consist of fertile loam underlain with rapidly disintegrating Lexington limestone and contain a high percentage of phosphorus and nitrogen. In the inner Bluegrass are large caverns, deeply eroded river channels, and shallow stream beds. There are many bowl-like depressions which drain through underground streams.

To the east of the Bluegrass is a narrow, crescent-shaped band of knobs covering approximately 2,200 square miles. The Knob area is characterized by steep ridges, a scrubby growth of timber, deeply eroded stream beds, and thin, eroded soils. It extends in an irregular strip around the Bluegrass from Vanceburg on the upper Ohio River to West Point below the Falls of the Ohio.

East of the Knob area, beginning at the Lewis-Greenup county line and extending south westward to the Clinton-Wayne county line on the Tennessee border, is the Cumberland Plateau, or eastern mountain region. It covers approximately 10,450 square miles. This is an area of steep ridges, deeply eroded stream beds, and outcroppings of limestone and sandstone. Big Black Mountain (4,150 feet) in Harlan County is the highest point in the state. There are both coniferous and deciduous trees, and, in many areas, mountain laurel and rhododendron. The river valleys are narrow but fertile, and the Eastern Coalfield contains rich coal seams.

West of the Cumberland Plateau and south of the Knob area is the Mississippian embayment, or Pennyroyal (pronounced locally "pennyrile"). This large area (8,000 square miles) consists of a rolling countryside marked by deep stream beds and outcroppings of sandstone and limestone. There are numerous limestone caves, of which Mammoth Cave (q.v.) is the most important. The Pennyroyal is an important agricultural area, producing grain, tobacco, and hay.

North and west of the Pennyroyal is the Western Coalfield region, which extends from the Daviess-Hancock county line to the Trade-water River and eastward to the Edmonson-Butler county line, and covers about 4,600 square miles. Within this area is the important Western Coalfield. It was here that the first coal was mined in Kentucky.

Between the Tennessee River and the Mississippi are the eight counties of the Jackson Purchase (see section on *History*). The land in this area varies from the thin red soils of the uplands to the rich alluvial bottoms of the Mississippi. Here is grown much of the Kentucky dark tobacco, and in Fulton County are the only cotton fields in the state. A small part of this county is cut off from the rest of the state by a bend in the Mississippi River. The economy of the southern tip of the Purchase closely resembles that of the Deep South.

The seventh Kentucky geological division is the thin, irregular shelf which borders the Ohio from the mouth of the Big Sandy River to the

KENTUCKY



The Kentucky State Capitol at Frankfort

Courtesy Louisville and Nashville Railroad



Courtesy Louisville and Nashville Railroad
An old home near Bardstown.



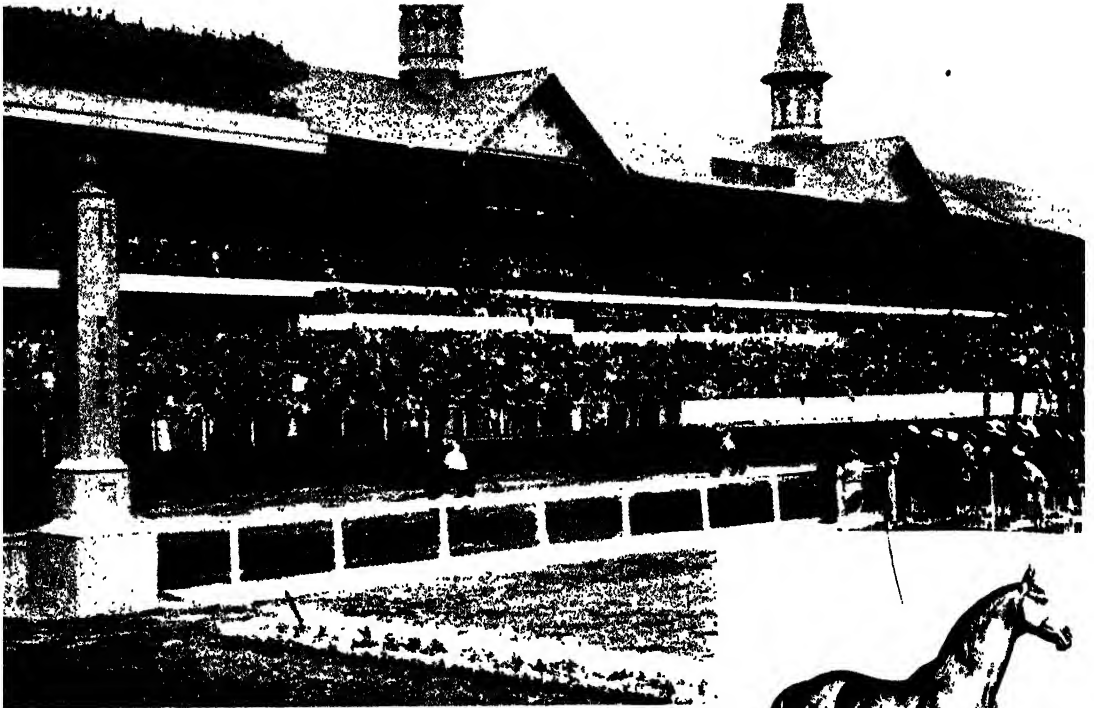
Courtesy State Department of Conservation
Louisville sternwheeler and barges.



Fort Harrod, at Harrodsburg, a reminder of the early settlements west of the Alleghenies.

Courtesy Kentucky Department of Highways

KENTUCKY



Courtesy State Department of Conservation

Above: Running the Kentucky Derby at Churchill Downs.

Courtesy Kentucky Department of Highways

Right: Monument over the grave of Man O'War, Kentucky's great racehorse.



Below: Broad leaves of Kentucky tobacco being harvested.

Courtesy Kentucky Department of Highways



south of the Cumberland. It is part of the Ohio flood plain.

Hydrography.—There are approximately 3,000 miles of navigable streams in Kentucky. The most important river is the Ohio, which flows along the northern border of the state from Catlettsburg at the mouth of the Big Sandy to just above Wickliffe, where it joins the Mississippi. When Virginia ceded its territory north of the Ohio to the United States government in 1784, it retained ownership of the river, and title passed to Kentucky when the state was separated from Virginia in 1792.

Many rivers and creeks flow down from the eastern mountains to the Ohio. The easternmost of these is the Big Sandy, which rises in Virginia. The Licking, which has its source in the mountains of Magoffin County, joins the Ohio opposite Cincinnati, between the towns of Covington and Dayton. Three streams combine to form the Kentucky River at Beattyville; from here the main stream cuts through the limestone area of the Bluegrass to Carrollton on the Ohio. Fourteen locks between Heidelberg and Carrollton convert the Kentucky into a deep, slack-water channel of navigation. With the disappearance of the large stand of mountain timber at its headwaters, however, the river is little used by commercial craft. South of the Kentucky are the Green and Barren rivers, which bisect the Mississippi plateau. The Cumberland rises in the hills of Letcher County and flows diagonally across the state to the Monroe County line, where it enters Tennessee. It re-enters Kentucky in Trigg County and joins the Ohio at Smithland.

The second most important river in Kentucky is the Tennessee, which flows from the Calloway-Trigg county line to Paducah. At Gilbertsville is the great Kentucky Dam of the Tennessee Valley Authority, which has created Kentucky Lake, one of the largest artificial bodies of water in the world. The lake furnishes hydroelectric power and affords facilities for recreation.

Climate.—The climate of Kentucky is moderate, with a mean winter temperature of 35°F., and a yearly average of 55°. Precipitation averages 44 inches a year, with occasional deficiencies in spring and summer. The growing season rises from 174 days in the northeastern part of the state to 189 days in the lower Mississippi flood plain.

Political Divisions.—**Cities.**—Kentucky is an agricultural state, and there are relatively few large towns and cities. The largest is Louisville, center of a metropolitan area which in 1950 had a total population of 576,900, and included Clark and Floyd counties of Indiana. Almost since its founding in 1778, Louisville has been an important trading center. It caters to a large local Kentucky and Indiana trade and carries out through its vast wholesale market to the entire South. Its principal business is in the sale of general merchandise, farm implements, meat products, plumbing supplies, automobiles, machinery, leather goods, grain and tobacco products, sporting goods, metals, and millwork. Lexington, the second largest city in the state, and Newport are included in the Cincinnati (Ohio) standard metropolitan area. Covington's chief trade is in metal products. Fayette County, with its chief city, Lexington, forms the Lexington metropolitan area. The city, in the bluegrass area, serves as the trading center for

a large portion of eastern Kentucky. It specializes in tobacco sales, horses, livestock, grain, whisky, and building supplies. Other important trading centers are Ashland, which has extensive oil and iron industries and, with Huntington, W. Va., is the center of a metropolitan area with a 1950 population total of 245,795; Paducah, a railroad and agricultural center with important livestock, tobacco, and commercial vegetable markets; and Owensboro, a distilling and agricultural market center. (See list of cities on the back of state map for populations.)

Counties.—Kentucky's 120 counties range in size from Gallatin, with an area of 100 square miles, to Pike, with 786 square miles. The oldest counties in the state are Fayette, Jefferson, and Lincoln, established in 1780; the newest is McCreary, created in 1912. The list of counties and county seats follows:

County	County Seat	County	County Seat
Adair	Columbia	Knott	Hindman
Allen	Scottsville	Knox	Barbourville
Anderson	Lawrenceburg	Larue	Hodgenville
Ballard	Wickliffe	Laurel	London
Barren	Glasgow	Lawrence	Louisa
Bath	Owingsville	Lee	Beattyville
Bell	Pineville	Leslie	Hyden
B Boone	Burlington	Letcher	Whitesburg
Bourbon	Paris	Lewis	Vanceburg
Boyd	Catlettsburg	Lincoln	Stanford
Boyle	Danville	Livingston	Smithland
Bracken	Brooksville	Logan	Russellville
Breathitt	Jackson	Lyon	Eddyville
Breckinridge	Hardinsburg	McCracken	Paducah
Bullitt	Shepherdsville	McCreary	Whitley City
Butler	Morgantown	McLean	Calhoun
Caldwell	Princeton	Madison	Richmond
Calloway	Murray	Magoffin	Salersville
Campbell	Alexandria	Marion	Lebanon
	Newport	Marshall	Benton
Carlisle	Bardwell	Martin	Inez
Carroll	Carrollton	Mason	Maysville
Carter	Grayson	Meade	Brandenburg
Casey	Liberty	Menifee	Frenchburg
Christian	Hopkinsville	Mercer	Harrodsburg
Clark	Winchester	Metcalfe	Edmonton
Clay	Manchester	Monroe	Tompkinsville
Clinton	Albany	Montgomery	Mount Sterling
Crittenden	Marion		West Liberty
Cumberland	Burkesville	Morgan	Greenville
Daviess	Owensboro	Muhlenberg	Bardstown
Edmonson	Brownsville	Nelson	Carlisle
Elliott	Sandy Hook	Nicholas	Hartford
Estill	Irvine	Ohio	La Grange
Fayette	Lexington	Oldham	Owenton
Fleming	Flemingsburg	Owen	Booneville
Floyd	Prestonsburg	Owsley	Falmouth
Franklin	Frankfort	Pendleton	Hazard
Fulton	Hickman	Perry	Pikeville
Gallatin	Warsaw	Pike	Stanton
Garrard	Lancaster	Powell	Somerset
Grant	Williamstown	Pulaski	Mount Olivet
Graves	Mayfield	Robertson	Mount Vernon
Grayson	Leitchfield	Rockcastle	Morehead
Green	Greensburg	Rowan	Jamestown
Greenup	Greenup	Russell	Georgetown
Hancock	Hawesville	Scott	Shelbyville
Hardin	Elizabethtown	Shelby	Franklin
Harlan	Harlan	Simpson	Taylorville
Harrison	Cynthiana	Spencer	Campbellsville
Hart	Munfordville	Taylor	Elkton
Henderson	Henderson	Todd	Cadiz
Henry	New Castle	Trigg	Bedford
Hickman	Clinton	Trimble	Morganfield
Hopkins	Madisonville	Union	Bowling Green
Jackson	McKee	Warren	Springfield
Jefferson	Louisville	Washington	Monticello
Jessamine	Nicholasville	Wayne	Dixon
Johnson	Paintsville	Webster	Williamsburg
Kenton	Covington and Independence	Whitley	Campton
		Wolfe	Versailles
		Woodford	

The People.—The Kentucky population pattern was established in the pioneer period. The original migration to the state included English, Irish, Scotch, Germans, French, and Negroes, in that order. This pattern prevailed until the 1840's, when there was an influx of Germans

into the communities along the Ohio River, particularly Louisville, Covington, Carrollton, and Maysville. Louisville also gained a considerable Irish population. According to the 1950 census, there were 2,742,090 whites, 201,921 Negroes, 234 American Indians, 335 Chinese, and 74 Japanese. Foreign-born whites numbered 16,068 and included 3,949 Germans, 2,583 persons from the British Isles, 1,067 Italians, 1,067 Canadians, and 1,038 Russians.

Between 1940 and 1948, the population of Kentucky declined from 2,845,627 to an estimated 2,819,000, or .9 per cent. The period of World War II saw a considerable movement out of the state on the part of service personnel and industrial and agricultural workers. Because of a lack of industries in the state, and because of the failure of a large number of submarginal farms, especially in eastern Kentucky, to support a larger population, industrial workers went to plants north of the Ohio River, and farm laborers, to the potato and cranberry fields of the eastern seaboard. By 1950, however, the census reported an overall 3.5 per cent gain since 1940 to 2,944,806, with the state's urban population comprising 36.8 per cent of the total.

Famous Men and Women.—There have been many celebrated Kentuckians. Because the state was first settled by a fairly mature population from the older states, a number of them were born elsewhere. Among the celebrated pioneers were Daniel Boone (1734–1820), Benjamin Logan (1743–1802), George Rogers Clark (1752–1818), and Simon Kenton (1755–1836). Statesmen included Isaac Shelby (1750–1826), John Breckinridge (1760–1806), Thomas Todd (1765–1826), and Henry Clay (1777–1852). In the field of journalism there were John Bradford (1749–1830), George D. Prentice (1802–1870), and Henry Watterson (1840–1921); in science, Ephraim M. McDowell (1771–1830), surgeon, and Robert Peter (1804–1894), chemist. Among later Kentuckians by adoption are Robert W. Bingham (1871–1937), newspaper publisher and diplomat, and Mary Breckinridge (1881–), director of the Frontier Nursing Service.

Native-born Kentuckians include Abraham Lincoln (Harding [now Larue] County, 1809–1865), 16th president of the United States; Richard M. Johnson (site, Louisville, 1780–1850), John C. Breckinridge (near Lexington, 1821–1875), Adlai E. Stevenson (Christian County, 1835–1914), and Allen W. Barkley (Graves County, 1877–), vice presidents; Jefferson Davis (Christian [now Todd] County, 1808–1889), president of the Confederacy; Samuel F. Miller (Richmond, 1816–1890), John M. Harlan (Boyle County, 1833–1911), Horace H. Lurton (Newport, 1884–1914), Louis D. Brandeis (Louisville, 1856–1941), Stanley F. Reed (Mason County, 1884–), Fred M. Vinson (Louisa, 1890–1953), and Wiley Rutledge (Cloverport, 1894–1949), justices of the Supreme Court; John J. Crittenden (Versailles, 1787–1863), James Guthrie (Bardstown, 1792–1869), Thomas Corwin (Franklin County, 1794–1865), Montgomery Blair (Franklin County, 1813–1883), Benjamin Bristow (Elkton, 1832–1896), and David R. Francis (Richmond, 1850–1927), Cabinet members; and John G. Carlisle (Campbell [now Kenton] County, 1835–1910) and Champ Clark (near Lawrenceburg, 1850–1921), speakers of the House of Representatives. Among those who have made notable contributions to the arts and sciences are Matthew H. Jouett (near Harrodsburg, 1787–1827) and Frank Duveneck (Covington, 1848–1919), painters; Robert J. Breckinridge (near Lexington, 1800–1871), John B. Bowman (Mercer County, 1824–1891), and Sophonisba P. Breckinridge (Lexington, 1866–1947), educators; Ormsby MacKnight Mitchel (Union County, 1809–62), astronomer; Joel T. Hart (near Winchester, 1810–77), sculptor; Nathaniel S. Shaler (Newport, 1841–1906), geologist; James Lane Allen (near Lexington, 1849–1925), John W. Fox (near Paris, 1863–1919), Alice Hegan Rice (Shelbyville, 1870–1942), Irvin S. Cobb (Paducah, 1876–1944), Elizabeth Madox Roberts (Springfield, 1885–1941), Arthur Krock (Glasgow County, 1886–), and Jesse Stuart (near Riverton, 1906–), writers; Benjamin K. Rachford (Alexandria, 1857–1929), physiologist; Ellen Churchill Semple (Louisville, 1863–1952), geographer; and Carl E. Bricken (Shelbyville, 1898–), composer. James G. Birney (Danville, 1792–1857), abolitionist; Albert Sidney Johnston (Washington, 1803–1862), Confederate general; Kit Carson (Madison County, 1809–1868), scout and Indian agent; and Simon B. Buckner, Jr. (near Munfordville, 1886–1945), World War II general, were also born in Kentucky.

Natural Resources.—When the first settlers came to Kentucky, they found magnificent stands of pines and hardwoods, including poplars, oaks, chestnuts, walnuts, and sycamores. At one time approximately three fourths of the state was forested. Reckless cutting, particularly after 1865, reduced the forest area to 11,857,000 acres at the beginning of 1945, and much of this has been cut over. Besides three state forests there are Cumberland National Forest, of over 1,350,000 acres extending southeastward from Rowan County to McCreary County, and a federal purchase unit, in Kentucky, of the Jefferson National Forest which lies mostly in Virginia.

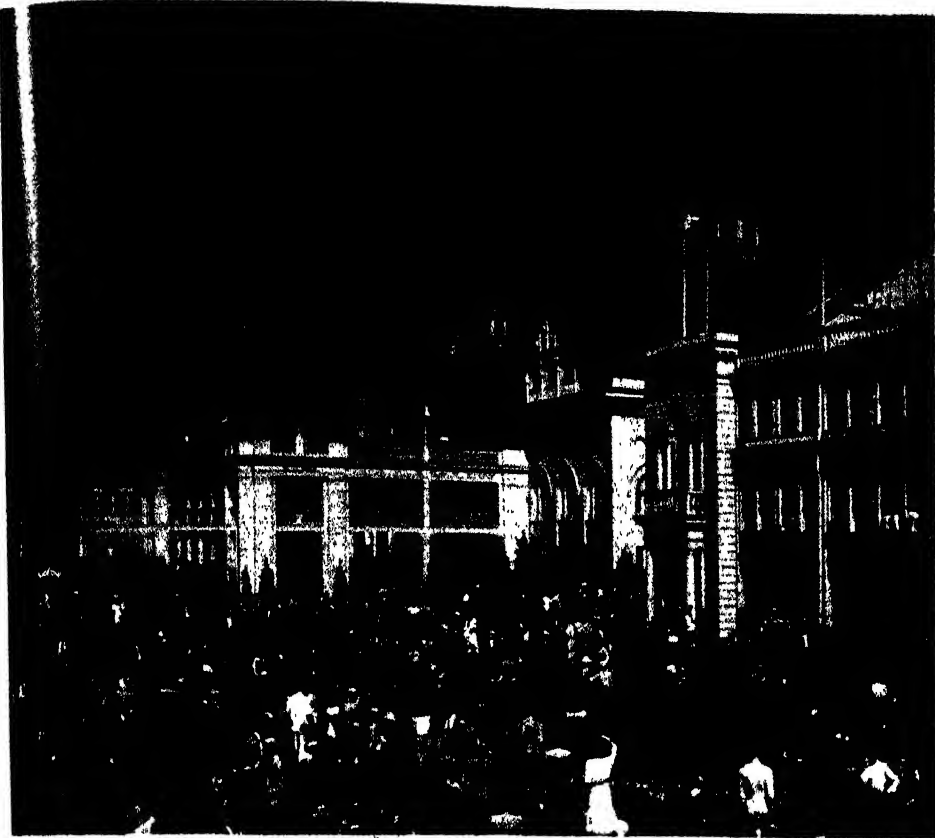
Kentucky has abundant mineral resources, including coal, petroleum, natural gas, fluorspar, gravel, clay, sand, and stone. Of these, coal is the most important. Kentucky ranks second among the 48 states in the production of fluorspar, and third in bituminous coal. (See section on *Production and Manufactures*.)

Perhaps the state's most important natural resource is its open-stream water supply. Of the 5,582,000,000 kilowatt-hours of electric power produced in 1951, 1,655,000,000 were from hydroelectric plants. Three important centers for the production of hydroelectric power are the Falls of the Ohio at Louisville, the Kentucky Dam on the Tennessee River at Gilbertsville, and Wolf Creek Dam, located in Russell County and completed in 1951. There are dozens of desirable power sites along the numerous rivers and creeks. In 1952, Kentucky's undeveloped water power resources were estimated at 1,576,000 kilowatts.

Parks, Preserves, and Other Points of Interest.—There are 2 national parks and 24 state parks and memorials in Kentucky. Mammoth Cave National Park, which covers 50,946 acres in Hart, Edmonson, and Barren counties, was transferred to the National Park Service in 1936. At Hodgenville is Sinking Creek farm, the ancestral home of Abraham Lincoln, which is maintained as a national historical park. Here is preserved what is said to be the cabin in which Lincoln was born. The state parks are of two types, scenic and historic. Among the better-known scenic parks are Cumberland Falls and Natural Bridge, both in the Cumberland National Forest; Pine Mountain, in the southeastern part of the state; and Carter Caves, in the northeast. Two parks—Kentucky Lake and Kentucky Dam Village—were acquired from the Tennessee Valley Authority. Among points of historical interest preserved in state parks are a replica of a cabin built by Dr. Thomas Walker in 1750, near Barbourville; a reconstruction of Fort Harrod and a museum in Pioneer Memorial Park, in Harrodsburg; Federal Hill, a Georgian mansion near Bardstown in which Stephen Foster is reputed, though without substantial proof, to have written *My Old Kentucky Home*; the public square in Danville, where Kentucky's first constitution was framed in 1792; the home of Col. William Whitley, said to be the first brick house built west of the Alleghenies, in Stanford; the birthplace of Jefferson Davis, in Fairview; and the sites of the battles of Blue Licks and Perryville. (See section on *History*.)

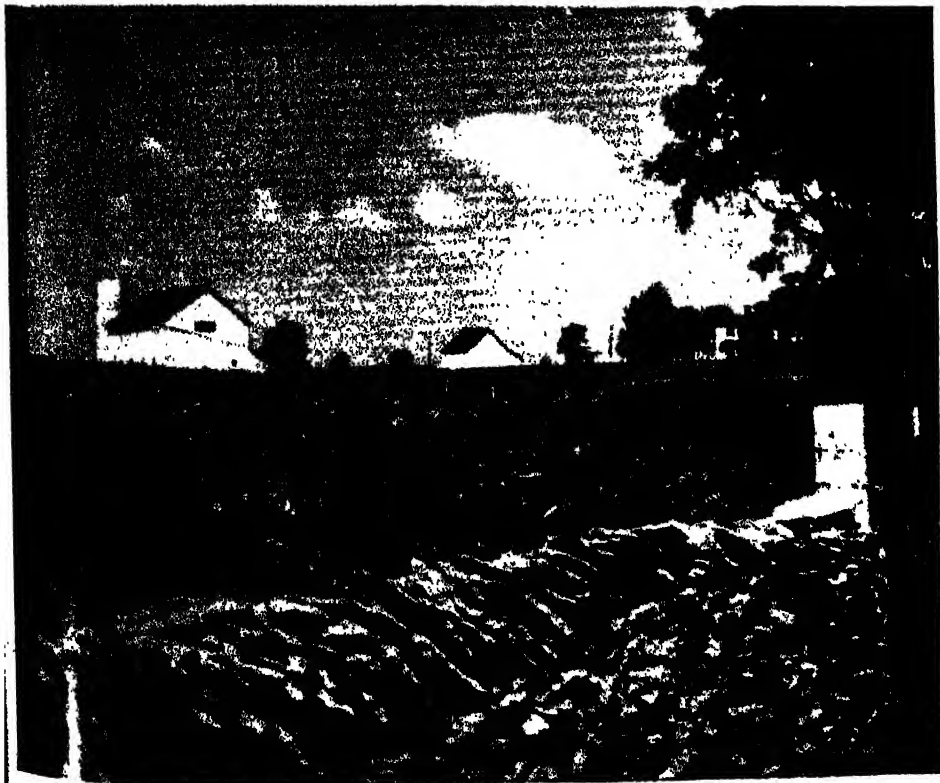
Among other points of interest in the state are the numerous ante-bellum homes, in Georgian, Federal, and Greek Revival styles of architecture, found in and nearby Frankfort, Covington, Lexington, Louisville, Bardstown, Harrodsburg, and other towns; the buildings of the 19th cen-

KENTUCKY



Color photographs by (above) Steinau, (below) Thierman; from F P G.

Above: Looking across the clubhouse garden, at the famous Churchill Downs race track, Louisville. Below: A field of Burley tobacco nearing maturity—a scene typical of the inner Bluegrass region.



KENTUCKY



Courtesy Kentucky Department of Highway

A scene on one of the many fine horse farms of the Bluegrass region. The Kentucky thoroughbred owes much of his famous speed and staying power to the nutritious bluegrass of his beautiful pastureland.



Courtesy State Department of Conservation

Night view of the blast furnace at the Ashland, Kentucky plant, of Armco Steel Corporation.

1950 Total Population 2,944,806

Adair (D6)	300
Adairville (D7)	800
Adams (M4)	300
Adolphus (E7)	500
Alex (N5)	250
Akersville (F7)	152
Albany (G7)	1,920
Alcorn (K5)	100
Alexandria (J3)	150
Allais (L6)	600
Allegre (C7)	125
Allen (M5)	421
Allenerville (C7)	337
Allock (L6)	608
Almo (D3)	150
Alpine (H7)	150
Alva (L7)	1,341
Alvaton (E7)	150
Anchorage (F4)	883
Anco (L6)	400
Annetta (E8)	350
Annaville (K6)	195
Ansel (H6)	229
Arabia (H6)	229
Arjay (K7)	1,000
Arlington (C3)	584
Artemus (K7)	1,000
Ashland (M4)	31,131
Athertonville (F5)	166
Auburn (D7)	994
Audubon Park (F4)	1,790
Augusta (J3)	1,599
Austin (F7)	150
Auxier (M5)	1,000
Avenstock (H4)	125
Bagdad (G4)	400
Bagdadi (D6)	127
Badana (C2)	300
Bangor (L4)	155
Barbourville (K7)	2,928
Barstow (G5)	4,154
Barwell (C3)	1,033
Barlow (C3)	657
Barren (riv.) (D6)	100
Barterville (J4)	100
Baskett (B5)	275
Battletown (E4)	125
Bayou (D2)	125
Beals (C5)	150
Beattyville (K5)	1,042
Beauty (N5)	577
Beaver Dam (D6)	1,349
Bedford (G3)	533
Beech Grove (C5)	162
Belfry (N5)	1,315
Bellvue (L1)	9,040
Belmont (F5)	75
Benham (M7)	3,982
Benton (D3)	1,980
Berea (J5)	3,372
Bernstadt (J6)	300
Berry (J3)	312
Bertis (K4)	97
Bethel (K4)	225
Bethelridge (H6)	190
Bethlehem (G4)	188
Betsy Layne (M5)	1,500
Beverly (L7)	500
Bever (C8)	175
Big Black (mt.) (M7)	600
Big Clifty (E5)	800
Big Creek (K6)	580
Big Rock (L6)	430
Big Sandy (riv.) (M4)	250
Big Spring (E5)	113
Bigsville (D2)	113
Blackey (M6)	393
Blackford (B6)	185
Blanche (K7)	455
Blanchville (C3)	124
Blountfield (G5)	666
Blue Diamond (L6)	1,968
Boaz (D3)	100
Bohman (M5)	300
Boon (M6)	150
Boonville (H5)	91
Boonville (F6)	300
Boonville (L6)	900
Boone (J3)	137
Boonville (K6)	165
Boone (J6)	250
Boone (F5)	300
Boone (K5)	150
Boone Green (D7)	18,347
Boone (J3)	55
Booneville (G6)	450
Booneburg (E4)	755
Boone (G7)	100
Boone (C6)	410
Boone (D3)	57
Boone (K7)	200

County Seat

Bristow (E6)	73
Brookfield (J6)	808
Brookley (K1)	980
Brookman (H7)	300
Brookside (F4)	150
Brookside (L7)	600
Brookville (J3)	622
Browder (D6)	350
Brownsville (E8)	447
Bruin (L4)	125
Bryan (G7)	137
Bryantville (H5)	128
Buchanan (M4)	180
Buckner (G4)	250
Buechel (F4)	1,500
Buffalo (F6)	485
Buford (D5)	100
Burns (L6)	1,448
Burns (H5)	777
Burkeville (G7)	1,278
Burley (C3)	340
Burlington (J2)	300
Burna (D6)	300
Burns Spgs. (K6)	350
Burnside (H6)	615
Burnsville (L4)	200
Bush (K6)	200
Busseyville (M4)	100
Butler (J3)	404
Cadiz (B7)	1,280
Calhoun (C5)	746
California (J3)	117
Calvary (G6)	250
Calvert City (D3)	900
Camp Breckinridge (E1)	3,477
Camp Dix (L3)	75
Campbell A.F.B. (B7)	361
Campbellsburg (G3)	361
Campbellville (G6)	3,477
Campton (K5)	431
Canada (N5)	1,500
Cane Valley (G6)	150
Caneville (E6)	377
Cannel City (L5)	400
Canton (B7)	250
Carbon Glow (M6)	300
Carlisle (J4)	1,524
Carntown (J3)	100
Carrollton (G3)	3,226
Carrsville (D2)	205
Carter (L4)	84
Carrington (G7)	110
Cass Creek (G6)	117
Cash (F6)	75
Cattletown (M4)	4,750
Cave City (F6)	1,119
Cawood (L7)	1,232
Cayce (C4)	200
Cecilia (F5)	400
Center (F6)	175
Centertown (C6)	370
Central City (C6)	4,110
Cerulean (B7)	218
Chace (G7)	350
Chaplin (G5)	200
Chavies (L6)	300
Chevrolet (L7)	500
Christianburg (G4)	100
Clark Hill (L4)	400
Clarks, East Fork (riv.) (D3)	489
Clarkson (E6)	1,291
Clay (B6)	636
Clay City (K5)	150
Claymour (C7)	150
Cleaton (C6)	450
Cliff (M5)	500
Cliff (C7)	200
Climax (J6)	75
Clinton (C3)	1,583
Clintonville (J4)	100
Clopiant (L7)	600
Clover Bottom (J5)	600
Cloverport (D5)	1,357
Co-Operative (H7)	400
Coakley (F6)	150
Cobb (B6)	200
Cold Spring (L2)	518
Coleman (N6)	200
Coleburg (F5)	73
College Hill (J5)	400
Colliata (M5)	175
Colmar (K7)	500
Colson (M6)	200
Columbia (G6)	2,187
Columbus (C3)	482
Combs (L6)	800
Concord (L3)	142
Concordia (D4)	75
Confluence (L6)	285
Constance (J1)	150
Conway (J6)	75

Cooper (H7)	275
Coopersville (H7)	260
Corral Ridge (F4)	3,010
Corbin (J7)	7,744
Corinth (H3)	283
Cort (F6)	85
Cornlandville (H5)	230
Corydon (B5)	742
Cottonburg (J5)	122
Covington (K1)	64,452
Cowan (K4)	200
Cowcreek (K6)	250
Coxton (L7)	700
Crab Orchard (H6)	757
Crane Nest (K7)	200
Crayne (A6)	300
Creekwood (L6)	67
Crestwood (G4)	450
Crier (B6)	125
Crittenden (H3)	287
Crofton (C3)	500
Cromwell (D6)	200
Cropper (G4)	175
Crummies (L7)	400
Critchfield (C4)	170
Cub Run (E8)	250
Cubage (K7)	325
Cumberland (M6)	4,249
Cumberland (lake) (H7)	125
Cumberland (mt.) (L7)	275
Cumberland (riv.) (E3)	189
Cundiff (G7)	200
Cunningham (C3)	275
Curdsville (C5)	189
Custer (E5)	200
Cynthiana (J4)	4,847
Daisy (L6)	300
Dale Hollow (res.) (G8)	75
Dalton (B8)	8,888
Danville (H5)	800
Davis (M5)	2,374
Dawson Spgs. (B6)	8,977
Dayton (L1)	104
De Mossville (J3)	250
Decoy (L5)	142
Defoe (G4)	395
Delphia (L6)	200
Denton (M4)	250
Dewey (res.) (M5)	250
Dewitt (K7)	277
Dexter (D3)	624
Dix (riv.) (H5)	200
Dixon (B5)	91
Donahansburg (F6)	200
Donerail (J4)	200
Dorton (M6)	500
Dover (K3)	1,102
Drakesboro (D6)	150
Dreyfus (J5)	640
Dry Ridge (H3)	100
Dublin (C3)	125
Duncan (H5)	150
Dundee (D5)	150
Dunham (M6)	1,200
Dunmor (C6)	156
Dunnville (H6)	140
Dwale (M5)	495
Dycusburg (E3)	147
Eadsville (H7)	300
Earlington (B6)	2,753
East Bernstadt (J6)	900
East Point (M5)	200
Eddyville (B6)	1,840
Edmonton (F7)	519
Edo (N6)	200
Eighty Eight (F7)	75
Ekron (E5)	188
Eli (H6)	250
Elizabethtown (F5)	5,807
Elizaville (K4)	150
Elk Creek (G4)	90
Elkataswa (K5)	250
Elkhorn City (N6)	1,349
Elkton (C7)	1,312
Elliottville (L4)	100
Elmrock (L6)	278
Elrod (J6)	75
Elmers (K2)	3,483
Elva (D3)	95

Ewing (K4)	400
Fairplay (G7)	78
Falcon (L5)	300
Falls of Rough (D5)	195
Fallsburg (M4)	200
Falmouth (J3)	2,186
Fancy Farm (C3)	419
Fariston (J8)	290
Farler (L6)	200
Farmington (D4)	221
Faubush (H6)	300
Felty (K6)	200
Ferguson (D7)	50
Ferguson (H6)	550
Field (K7)	300
Finchville (G4)	75
Finley (G6)	106
Finney (E7)	75
Firebrick (L3)	150
Fishtrap (N6)	1,000
Fitchburg (K5)	200
Flat (K5)	200
Flat Lick (K7)	1,000
Flatgap (M5)	130
Fleming (M6)	943
Flemingsburg (K4)	1,502
Flint (M6)	100
Flippin (J7)	150
Florence (J2)	1,325
Fonda (K7)	1,300
Ford (J5)	250
Fordsville (D5)	533
Forks of Elkhorn (H4)	400
Fort Campbell (C7)	10,000
Fort Knox (F5)	372
Fort Mitchell (K1)	10,870
Fort Thomas (L1)	108
Foster (J3)	218
Fountain Run (F7)	11,916
FRANKFORT (H4)	4,343
Franklin (D7)	395
Fredonia (B8)	2,200
Freeburn (N5)	75
Freedom (F7)	288
Frenchburg (K5)	162
Frew (L6)	300
Frogue (G7)	501
Fullerton (L3)	3,224
Fulton (C4)	75
Furnace (K5)	500
Gamaliel (F7)	300
Gapcreek (H7)	150
Garfield (E5)	75
Garlin (C6)	300
Garrison (L3)	500
Gatlin (K7)	101
Gatton (F6)	195
Geneva (B5)	500
Georges Creek (M5)	5,518
Georgetown (H4)	260
Germantown (K3)	388
Gestling (L4)	700
Ghent (G3)	100
Gilbertsville (D3)	100
Gimlet (L4)	500
Girdler (K7)	7,025
Glasgow (E6)	100
Glasgow Dean (E5)	100
Glencoe (H3)	300
Glendale (F5)	300
Glens Fork (G6)	213
Glo (M6)	500
Glomawr (L6)	800
Godman A.F.B. (E5)	125
Golden Pond (B7)	100
Goshen (F4)	200
Gradyville (G6)	110
Graham (C6)	1,100
Grahn (L4)	600
Grand Rivers (E3)	234
Grange City (K4)	225
Grant (H3)	100
Grassland (E6)	79
Graz (H4)	150
Gravel Switch (G5)	200
Gray (K7)	300
Gray Hawk (J6)	300
Graysbranch (M3)	156
Grayson (M4)	1,383
Green (riv.) (C5)	120
Green Hall (K6)	119
Greenmount (J6)	119
Greensburg (F6)	1,032

Halfway (E7)	209
Hammond (K7)	300
Hampton (D2)	130
Hanson (C6)	283
Happy (L6)	800
Hardbury (L6)	800
Hardin (D3)	324
Hardin Springs (E5)	112
Hardinburg (D5)	902
Hardyville (F6)	300
Harlan (L7)	4,788
Harned (E5)	140
Harold (M5)	500
Harrodsburg (H5)	5,262
Hartford (D6)	1,564
Harveyton (L6)	368
Hartfield (N5)	250
Hawesville (D6)	825
Hazard (L6)	6,985
Hazel (D4)	444
Hazel Green (K5)	264
Hebbardsville (C5)	238
Hebron (J1)	250
Hedrick (K7)	600
Hessey (N5)	150
Heischawa (L5)	120
Heller (N6)	348
Henderson (B5)	16,337
Henshaw (B5)	210
Herridon (C7)	250
Herrington (lake) (H5)	650
Hi Hat (M6)	100
Hibernia (G6)	100
Hickman (C4)	2,037
Hickory (D3)	185
High Bridge (H5)	350
Highland Hts. (L1)	1,569
Highpoint (L7)	1,500
Highway (G7)	100
Hillsboro (K4)	141
Hima (K6)	200
Himerville (Beauty) (N5)	577
Himyar (K7)	400
Hindman (M6)	521
Hinton (J4)	125
Hiram (L7)	300
Hitchins (M4)	1,000
Hodgenville (F5)	1,695
Holland (E7)	120
Hopewell (M4)	158
Hopkinsville (B7)	12,528
Horse Branch (D6)	225
Horse Cave (F6)	1,545
Howardstown (F5)	100
Hudson (E3)	133
Huntersville (G7)	140
Hustonsville (H6)	435
Hyden (L6)	647
Iasley (B6)	400
Independence (H3)	285
Inez (N5)	622
Irvine (K5)	3,259
Irrington (E5)	831
Island (C6)	566
Isonville (L4)	150
Ivel (M5)	1,200
Ivyton (L5)	300
Jackson (L5)	1,978
Jamestown (G7)	1,064
Jason (K6)	250
Jeff (L6)	1,500
Jeffersonton (G4)	1,246
Jeffersonville (K5)	479
Jenkins (M6)	6,921
Jericho (G4)	110
Jeriel (M4)	175
Jett (H4)	240
Jetts Creek (K6)	75
Johnetta (J6)	100
Jonesville (H3)	158
Junction City (H5)	988
Kajay (K7)	350
Keene (H5)	500
Keoh (L4)	176
Kelly (C7)	99
Kenton (J3)	165
Kentucky (dam) (D3)	193
Kentucky (res.) (E3)	193
Kentucky (riv.) (H3)	193
Kenvir (F7)	193

KENTUCKY (Continued)

1950 Total Population 2,944,806

Kona (M6).....	400	Meta (N5).....	250	Pellville (D6).....	111	Sewell (L5).....	200	Twila (L7).....	550	
Kosmosdale (E4).....	375	Mexico (E2).....	300	Pembroke (C7).....	532	Sextons Creek (K6).....	250	Tyner (K6).....	225	
Krypton (L6).....	88	Middleburg (H6).....	250	Peoples (J6).....	200	Shady Grove (B6).....	80	Tyrone (H4).....	225	
Kuttawa (E3).....	794	Middlesboro (K7).....	14,482	Perryville (H5).....	660	Sharon Grove (D7).....	200	Ulysses (M5).....	325	
La Center (C3).....	563	Middletown (G4).....	1,500	Petersburg (H2).....	356	Sharpburg (K4).....	405	Union (H3).....	155	
La Fayette (B7).....	246	Midway (H4).....	950	Petersville (L4).....	150	Shawhan (J4).....	100	Union Star (D5).....	57	
La Grange (G4).....	1,558	Millburn (C3).....	300	Petroleum (E7).....	175	Shelbiana (M6).....	500	Uniontown (B5).....	1,064	
Lake (K6).....	250	Millford (J3).....	150	Pewee Valley (G4).....	687	Shelbyville (G4).....	4,403	Upper Tygart (L4).....	150	
Lakeside Park (K2).....	988	Mill Springs (H7).....	250	Phelps (N6).....	928	Shepherdsville (F4).....	953	Upton (F8).....	383	
Lamasco (B7).....	100	Millersburg (J4).....	828	Philpot (D5).....	109	Sherburne (K4).....	100	Valley Station (F4).....	75	
Lancaster (H5).....	2,402	Millertown (E6).....	80	Pierce (F8).....	300	Sherman (H3).....	160	Valley View (J5).....	200	
Laurel Creek (K6).....	300	Mills (K7).....	300	Pigeonroost (K6).....	250	Shively (F4).....	2,401	Van (M6).....	200	
Lawrenceburg (H4).....	2,369	Millstone (M6).....	700	Pikeville (N6).....	5,154	Sibert (K6).....	250	Van Lear (M5).....	1,066	
Lawton (L4).....	375	Milltown (G6).....	250	Pilot (K5).....	150	Sideway (L4).....	85	Vanburen (G5).....	175	
Lebanon (G5).....	4,640	Millwood (E6).....	175	Pine (mt.) (L7).....	150	Siloam (M3).....	350	Vanceburg (L3).....	1,528	
Lebanon Jct. (F5).....	1,243	Milo (M5).....	174	Pine Hill (J6).....	500	Silver Grove (L2).....	1,000	Verda (L7).....	1,446	
Lee City (L5).....	120	Milton (G3).....	355	Pine Knot (H7).....	1,500	Silverhill (L5).....	500	Vernon (G7).....	100	
Leeco (K5).....	200	Mississippi (riv.) (B2).....	175	Pineville (K7).....	3,890	Simpsonville (G4).....	247	Verona (H3).....	200	
Leighton (K5).....	500	Monterey (H4).....	215	Pittsburg (J6).....	800	Sizerock (L6).....	200	Versailles (H4).....	2,760	
Leitchfield (E6).....	1,312	Monticello (H7).....	2,934	Place (J7).....	600	Skaggs (L4).....	171	Vicco (L6).....	1,008	
Leon (M4).....	125	Moorefield (K4).....	150	Pleasant View (J7).....	500	Slade (K5).....	500	Vine Grove (F5).....	1,252	
Level Green (J6).....	75	Moore Creek (K6).....	214	Pleasureville (G4).....	355	Slaughters (B6).....	328	Viola (D3).....	200	
Lewisburg (C8).....	496	Moorman (C6).....	300	Plummers Landing (L4).....	100	Sleep (L6).....	150	Virgie (M6).....	1,500	
Lewistown (D5).....	658	Moree (N5).....	250	Pond (riv.) (C6).....	250	Slickford (H7).....	450	Visalia (J3).....	192	
Lexington (J4).....	55,534	Morehead (E1).....	3,102	Poole (B5).....	250	Sloans Valley (J7).....	225	Waco (J5).....	300	
Liberty (H6).....	1,291	Moreland (H6).....	500	Port Royal (G3).....	156	Smith Mills (B5).....	300	Waddy (G4).....	200	
Licking (riv.) (J3).....	200	Morgan (J3).....	80	Portland (G6).....	200	Smith Town (H7).....	600	Walker (K7).....	400	
Lida (K6).....	450	Morganfield (B5).....	3,257	Powersburg (H7).....	400	Smithland (D3).....	498	Wallington (K4).....	400	
Liggett (L7).....	396	Morgantown (D6).....	850	Premium (M6).....	500	Smiths Grove (E6).....	683	Wallins Creek (K7).....	525	
Ligon (M6).....	200	Morning View (J3).....	143	Preston (K4).....	200	Smoky Valley (L4).....	100	Wallonia (B7).....	160	
Linton (E3).....	200	Morris Fork (K6).....	250	Prestonsburg (M5).....	3,585	Soft Shell (M6).....	248	Walton (H3).....	1,358	
Lisman (B6).....	175	Mortons Gap (B1).....	1,081	Prestonville (G3).....	166	Soldier (L4).....	150	Warfield (N5).....	324	
Livmore (C5).....	1,441	Mt. Eden (G4).....	300	Pride (E2).....	150	Somerset (J6).....	987	Warnock (M4).....	175	
Livia (C5).....	75	Mt. Olivet (J3).....	455	Princeton (B6).....	5,388	Sonora (F5).....	292	Warsaw (H3).....	829	
Livingston (J6).....	378	Mt. Salem (H6).....	200	Prospect (F4).....	300	Sophie (L4).....	70	Washington (K3).....	500	
Lloyd (M3).....	375	Mt. Sherman (F6).....	150	Providence (B6).....	3,905	S. Carrollton (C8).....	289	Wataga (G7).....	346	
Lockport (H4).....	102	Mt. Sterling (J6).....	5,284	Pryorsburg (D3).....	400	S. Carrollton (C8).....	289	Water Valley (C4).....	346	
Locust Branch (J5).....	300	Mt. Vernon (J6).....	1,106	Pyre (K5).....	200	S. Ft. Mitchell (K2).....	3,142	Waterview (G7).....	250	
Logansport (D6).....	125	Mountain Ash (J7).....	475	Quicksand (L5).....	350	S. Irvine (J5).....	400	Waverly (B5).....	345	
Lola (D2).....	150	Mouthcard (N6).....	400	Quincy (L3).....	250	S. Pleasureville (Pleasureville).....	355	Way (E6).....	123	
London (J6).....	3,428	Muir (J4).....	400	Quinton (H7).....	250	S. Portsmouth (L3).....	1,196	Wayland (M6).....	1,807	
Loneoak (D3).....	1,250	Muldraugh (E5).....	1,100	Raceland (M3).....	1,001	S. Shore (M3).....	1,497	Waynesburg (H6).....	400	
Lookout (N6).....	1,300	Munfordville (F6).....	694	Ravenna (K5).....	979	S. Union (D7).....	85	Webbs Cross Roads (G6).....	300	
Lookout Hts. (K1).....	603	Muri (H7).....	400	Raywick (G5).....	175	S. Union (D7).....	85	Webbville (M4).....	200	
Loretto (G5).....	600	Murray (D4).....	6,035	Ready (E6).....	175	Southgate (L1).....	1,903	Webster (E5).....	128	
Lost Creek (L6).....	250	Myers (K4).....	150	Red (riv.) (K5).....	500	Sparkville (G6).....	250	Weeksbury (M6).....	1,340	
Lothair (L6).....	1,313	Nancy (H6).....	500	Redhouse (J5).....	138	Sparrow (G5).....	75	Wellington (K5).....	300	
Louellen (L7).....	1,600	Narrows (D5).....	100	Redwine (L4).....	155	Sparta (H3).....	298	W. Irvine (J5).....	200	
Louisa (M4).....	2,015	Nebo (B6).....	282	Reed (C5).....	155	Spider (M6).....	211	W. Liberty (L5).....	931	
Louisville (F4).....	369,129	Ned (L6).....	276	Relief (L5).....	350	Spottsville (C5).....	400	W. Louisville (C5).....	250	
Lovelandville (C3).....	275	Nelse (M6).....	100	Richardson (M5).....	175	Spring Lick (D6).....	140	W. Paducah (C3).....	135	
Lovely (N5).....	500	Neon (M6).....	1,055	Richardsonville (E6).....	250	Springfield (G5).....	2,032	W. Point (E4).....	1,669	
Loves (C3).....	150	Nepton (K4).....	225	Richmond (J5).....	10,268	Sprule (K7).....	200	W. Russell (M4).....	1,200	
Lowmansville (M5).....	500	New Castle (G4).....	631	Riley (G5).....	350	Stab (J6).....	200	W. Somerset (H6).....	500	
Loyall (L7).....	1,548	New Haven (F5).....	563	Rineyville (F5).....	300	Staffordsville (M5).....	350	Westbend (J5).....	250	
Lucas (F7).....	150	New Hope (G5).....	350	Ritner (H7).....	200	Stamping Ground (H4).....	396	Westport (F4).....	125	
Lucile (L4).....	75	New Liberty (H3).....	108	Riverside (E6).....	108	Stanford (H5).....	1,861	Westwood (M4).....	4,000	
Ludlow (K1).....	6,374	Newport (L1).....	31,044	Robards (B5).....	428	Stanton (K5).....	635	Wheatcroft (B5).....	418	
Lynch (M7).....	3,970	Newtown (J4).....	100	Rockcastle (D6).....	372	State Line (C4).....	200	Wheatley (H3).....	85	
Lynn Grove (D4).....	75	Nicholasville (J5).....	3,406	Rockcastle (riv.) (J6).....	150	Station Camp (J5).....	300	Wheeler (K7).....	200	
Lynnville (D4).....	100	Noctor (L5).....	200	Rockfield (E7).....	150	Stearns (J7).....	3,000	Wheelwright (M6).....	2,037	
Macco (D5).....	350	Nolin (riv.) (E6).....	150	Rockholds (J7).....	562	Stephensburg (E5).....	200	White Mills (E5).....	100	
Mackville (G5).....	250	Norfleet (H6).....	150	Rockport (D6).....	450	Stephensport (D5).....	155	White Plains (C6).....	385	
Madisonville (B6).....	11,132	Normandy (G4).....	75	Rolling Fork (riv.) (F5).....	200	Stillwater (K5).....	800	Whitesburg (M6).....	1,393	
Majestic (N5).....	1,140	N. Corbin (J7).....	1,077	Rose Hill (H5).....	200	Strunk (J7).....	250	Whitesville (D5).....	723	
Malone (L5).....	260	N. Middletown (J4).....	319	Rosewood (C6).....	119	Sturgis (B5).....	2,222	Whitley City (J7).....	2,500	
Maloneville (M3).....	100	N. Pleasureville (G4).....	198	Rosine (D6).....	450	Sublett (L5).....	250	Wildlife (C3).....	1,019	
Mammoth Cave Nat'l Park (F6).....	1,706	Nortonville (C6).....	909	Rough (riv.) (D5).....	200	Sudith (K4).....	120	Wilders (K1).....	204	
Manchester (K6).....	1,706	Nuckols (C5).....	103	Rowland (H5).....	200	Sullivan (A6).....	250	Wildie (J6).....	250	
Manitow (B6).....	100	O'Bannon (G4).....	1,500	Royalton (M5).....	400	Sulphur (G4).....	350	Willard (M4).....	124	
Mannington (C6).....	300	Oakland (E6).....	195	Rumsey (C5).....	301	Sulphur Lick (F7).....	75	Williamsburg (J7).....	3,348	
Mansville (G6).....	200	Oakton (C7).....	240	Rush (M4).....	500	Summer Shade (F7).....	350	Williamsport (M5).....	475	
Mariba (K5).....	75	Oakville (D4).....	200	Russell (M3).....	1,681	Summersville (F6).....	500	Williamstown (H3).....	1,466	
Marion (A6).....	2,375	Obion (riv.) (C3).....	200	Russell Springs (G6).....	1,125	Sunnydale (D5).....	75	Willburg (G5).....	350	
Marrowbone (F7).....	250	Oftutt (M5).....	210	Russellville (D7).....	4,529	Sunite (H7).....	400	Willmore (H5).....	2,337	
Marsha Siding (H7).....	500	Ogle (K6).....	150	Sacramento (C6).....	378	Sweden (E6).....	130	Winchester (J4).....	9,226	
Martin (M5).....	1,170	Ohio (riv.) (C2).....	1,047	Sadieville (H4).....	355	Switzer (H4).....	246	Wingo (C4).....	451	
Martinsburg (Sandy Hook) (L4).....	238	Okolona (F4).....	1,047	St. Charles (B6).....	534	Tateville (H7).....	500	Winston (J5).....	250	
Martwick (D6).....	285	Old Landing (K5).....	250	St. Francis (G5).....	248	Taylorport (J1).....	259	Winston Park (L2).....	200	
Mary (K5).....	300	Oldtown (M4).....	110	St. Helens (K5).....	300	Taylorville (G4).....	888	Wolf Creek (F4).....	225	
Mason (H3).....	75	Oliver Hill (L4).....	1,351	St. Mary (G5).....	212	Texas (G5).....	150	Wolverine (L5).....	1,200	
Mayfield (D3).....	8,990	Olney (E2).....	75	Salem (D2).....	395	Threeknicks (J6).....	100	Woodbine (E7).....	240	
Mayfield (riv.) (C3).....	400	Olympia (K4).....	250	Saloma (G6).....	168	Tilene (D3).....	150	Woodburn (D6).....	200	
Mays Lick (K3).....	400	Ordinary (L4).....	100	Salt (riv.) (F5).....	488	Tinsley (K7).....	500	Woodbury (G5).....	200	
Mayville (K3).....	8,632	Orlando (J6).....	150	Salt Lick (K4).....	488	Tiptop (L5).....	200	Woodlawn (L1).....	330	
Mc Afee (H5).....	75	Orville (H4).....	120	Salvia (H5).....	500	Tollabro (K3).....	480	Woolloom (K5).....	2,725	
Mc Daniels (E5).....	75	Outwood (B6).....	500	Salyersville (L5).....	1,174	Tolu (E2).....	350	Wooton (L6).....	200	
Mc Dowell (M6).....	330	Owensboro (C5).....	33,651	Samuels (G5).....	250	Tong (M3).....	150	Worthington (F4).....	308	
Mc Henry (D6).....	511	Owenton (H3).....	1,249	Sand Springs (J6).....	100	Tradewater (riv.) (B6).....	100	Worthington (M3).....	308	
Mc Kee (K6).....	500	Owingsville (K4).....	929	Sanders (H3).....	206	Trammel (E7).....	100	Worthville (G3).....	400	
Mc Kianey (H6).....	500	Pactolus (L4).....	150	Sandgap (J6).....	800	Trenton (C7).....	577	Wright (L4).....	250	
Mc Quady (D5).....	100	Paducah (D3).....	32,828	Sandy Hook (L4).....	238	Trimble (H6).....	300	Wurtland (M3).....	1,000	
Mc Roberts (M6).....	2,500	Paint Lick (J5).....	200	Sano (G6).....	225	Trinity (K3).....	75	Yancey (L7).....	100	
Mc Veach (N5).....	1,292	Paintsville (M5).....	4,309	Sardia (K3).....	176	Truitt (M3).....	100	Yatesville (M4).....	100	
Mealy (M5).....	500	Palmer (J5).....	130	Savoy (J7).....	462	Tug Fork (riv.) (N6).....	75	Yeadam (L6).....	350	
Meigs (K5).....	75	Parola (J5).....	200	Sawyer (J7).....	462	Turkey (L6).....	75	York (L3).....	200	
Meibor (D9).....	227	Paris (J4).....	6,912	Scalf (K7).....	500	Turners Station (G3).....	88	Yosemite (H6).....	94	
Meibourne (L3).....	300	Park City (E6).....	448	Science Hill (H6).....	445			Young Creek (J7).....	128	
Meister (J8).....	250	Park Hills (K1).....	2,577	Scottsville (E7).....	2,060			Zachariah (K5).....	100	
Merrins (G6).....	175	Parkers Lake (H7).....	100	Sobree (B5).....	1,168			Zebulon (M5).....	400	
		Parksville (H5).....	200	Soco (M6).....	644					
		Payneville (E5).....	81	Sedalia (D4).....	240					

ury Shaker colony in Shakertown; and the old apitol in Frankfort, which houses the state historical society. The thoroughbred horse farms in the Bluegrass area around Lexington, and Churchill Downs, scene of the Kentucky Derby, in Louisville, attract many out-of-state visitors.

In pioneer times, Kentucky had large numbers of buffalo, deer, elk, bear, and small game. Today there are no buffalo or elk, and deer and bear are to be found only in such protected wooded areas as the Kentucky Woodlands Wildlife Refuge, a 48,509-acre tract maintained by the federal government in Trigg and Lyons counties, and the park system. Small game animals include rabbits, squirrels, opossum, raccoon, skunks, mink, and woodchucks. There are quail and some pheasants, and the streams are stocked with crappie, bass, trout, perch, catfish, gar, and carp. The state maintains two game farms, four hatcheries, and two restocking units.

Production and Manufactures.—*Agriculture.*—According to the agricultural census of 1945, there were in Kentucky 238,501 farms, occupying 19,725,000 acres of land, or an average of 82.7 acres per farm. Between 1940 and 1945, the percentage of tenants among all farmers declined from 33.1 to 26.8.

In 1946, farm land and buildings in the state were valued at \$1,186,000,000. In that year, cash farm income totaled \$455,987,000, of which \$217,747,000 was derived from crops, \$221,619,000 from livestock and livestock products, and \$16,621,000 from government payments. Corn and tobacco are Kentucky's leading crops, and the state ranks second to North Carolina in the production of tobacco. In the accompanying table are shown comparative production figures of major crops for the years 1937-1948.

Crop (and unit of production)	Average 1937-46	Final 1947	Estimate 1948
Corn (1,000 bushels)	\$ 70,119	\$ 72,265	\$100,040
Oats (1,000 bushels)	1,883	2,415	2,754
Wheat (1,000 bushels)	6,072	5,184	5,184
Barley (1,000 bushels)	1,617	1,325	1,348
Rye (1,000 bushels)	285	518	420
Hay (1,000 tons)	2,130	2,704	2,194
Soybeans for beans (1,000 bushels)	729	1,750	2,299
Sweet potatoes (1,000 bushels)	1,362	1,040	960
Potatoes (1,000 bushels)	3,774	3,366	2,542
Tobacco (1,000 pounds)	366,501	385,073	413,390
Apples (1,000 bushels)	293	276	250
Peaches (1,000 bushels)	707	783	462
Pears (1,000 bushels)	193	134	118

Kentucky is the only state that grows hemp or seed. Production of this crop in 1948 was estimated at 176,000 pounds. As of Jan. 1, 1948, there were in the state 204,000 horses, 171,000 mules, 1,592,000 head of cattle, 803,000 sheep and lambs, and 1,499,000 hogs and pigs.

Forest and Mineral Industries.—In 1946, the state produced an estimated 580,000,000 board feet of lumber. In that year, Kentucky ranked eighth among the 48 states in value of mineral production, with an output totaling \$288,606,000. Production figures of leading minerals for 1946 are shown in the accompanying table.

Minerals (and unit of production)	Quantity	Value of production
Coal (short tons)	66,756,000	\$216,496,000
Natural gas (1,000 cubic feet)	80,000,000	36,800,000
Petroleum (barrels)	10,578,000	17,340,000
Stone (short tons)	4,745,560	5,205,820
Fluorspar (short tons)	63,143	1,889,454
Sand and gravel (short tons)	2,163,734	1,802,063
Natural gasoline and allied products (gallons)	54,291,000	1,480,000

* Exclusive of unclassified stone.

Manufactures.—Kentucky's principal industries, with value of production for the year 1946, are listed in the accompanying table.

Industrial groups	Value of production
Food and kindred products *	\$414,079,000
Tobacco products	138,581,000
Iron, steel, and products	79,065,000
Apparel and finished fabrics	57,019,000
Furniture and related items	55,688,000
Nonferrous metals	53,400,000
Chemicals and allied products	50,842,000
Machinery, except electrical	46,536,000
Lumber and timber products	43,752,000
Printing, publishing, etc.	38,524,000

* Including distilled liquors.

The value of all manufactured products in 1946 was \$1,162,242,000. The distilling industry is concentrated mainly in Owensboro, Lexington, Bardstown, Louisville, and Frankfort; iron products are manufactured in Louisville, Covington, and Ashland. Louisville also has aluminum, sporting goods, flour-milling, and packing plants. Following World War II, many small plants were established in the smaller towns of Kentucky. Among them are tool, woodworking, textile, leather, and building supply factories.

Transportation and Communications.—The first Kentucky highway was the Wilderness Road, which passed through the Cumberland Gap to Boonesborough and other pioneer forts (see section on *History*). From 1794 to about 1912 the road system was the responsibility of private and public toll companies. Thereafter, the state gradually began to assume responsibility for highway development and maintenance, and in 1948 took charge of intercounty primary roads and local highways. As of 1947, there were 10,069 miles of primary roads and 463 miles of primary city streets in Kentucky. There were 47,598 miles of local roads in 1946.

The first railroad in Kentucky was the Lexington and Ohio (now part of the Louisville and Nashville), which was chartered in 1830. The initial section of this road, a six-mile line from Lexington toward Frankfort, was opened in 1832. By 1947, there were 3,864 miles of railway in Kentucky. Major railroads operating in the state include the Louisville and Nashville, Southern, Illinois Central, Chesapeake and Ohio, and Gulf, Mobile, and Ohio. The lines of the Baltimore and Ohio and the Pennsylvania railroads touch the northern part of the state, and there is a limited amount of local mileage.

Except for traffic on the Ohio, Cumberland, and Tennessee rivers, water transportation has ceased to be a factor of importance in Kentucky. Moreover, although these three rivers bear a large amount of tonnage each year in interstate traffic, little of it stops at Kentucky ports.

As of Jan. 1, 1948, there were 64 airports in Kentucky. Four of these—Bowman Field at Louisville, Bluegrass Field at Lexington, Greater Cincinnati Field near Erlanger, and Paducah Field—are of major commercial importance. The state is served by six scheduled airlines: American, Chicago and Southern, Delta, Eastern, Piedmont, and Trans World.

Economic and Financial Factors.—On Dec. 31, 1947, there were 295 state banks in Kentucky, with total assets of \$1,017,116,000, and deposits amounting to \$948,028,000. As of Dec. 31, 1948, the 92 national banks in the state

had combined assets of \$681,918,000, and deposits totaling \$639,168,000.

Major sources of state revenue are cigarette, gasoline, alcoholic beverage, property, and income taxes and various franchises and license fees. Highways, public welfare, and education receive the largest allotments from state funds. On June 30, 1947, the net long-term debt of Kentucky was \$5,305,000. The assessed valuation of taxable property in 1946 was estimated at \$4,973,921,000.

Government.—The Commonwealth of Kentucky has had four constitutions, adopted in 1792, 1799, 1849, and 1891, respectively. The present constitution became effective on June 1, 1892; it has been amended 13 times. A proposal to call a constitutional convention must be approved by two successive sessions of the state legislature. It is then submitted to the electorate. A majority vote is required, said majority equaling at least one fourth of the qualified voters at the last election. Two such proposals were defeated at the polls, in 1931 and 1947, respectively. Amendments may be submitted to the voters by three fifths of the elected legislators; a majority vote is necessary for approval. No more than two amendments may be submitted to the electorate at one time; if defeated, an amendment may not be resubmitted within five years.

Executive.—The chief executive is the governor, who is elected by popular vote for a term of four years. He may not succeed himself in office. Other elective officials, all of whom serve four-year terms, are the lieutenant governor, secretary of state, attorney general, superintendent of public instruction, clerk of the court of appeals, auditor, treasurer, railroad commissioners, and commissioner of agriculture. The governor is responsible for the preparation of the state budget. A majority of the members elected to the legislature may override his veto of any bills. The following men have served as governors of the state:

GOVERNORS OF KENTUCKY

Isaac Shelby	Democratic-Republican	1792-1796
James Garrard		1796-1804
Christopher Greenup		1804-1808
Charles Scott		1808-1812
Isaac Shelby		1812-1816
George Madison		1816
Gabriel Slaughter		1816-1820
John Adair		1820-1824
Joseph Desha		1824-1828
Thomas Metcalfe	National Republican	1828-1832
John Breathitt	Democrat	1832-1834
James T. Morehead	National Republican	1834-1836
James Clark	Whig	1836-1839
Charles A. Wickliffe		1839-1840
Robert P. Letcher		1840-1844
William Owsley		1844-1848
John J. Crittenden		1848-1850
John L. Helm		1850-1851
Lazarus W. Powell	Democrat	1851-1855
Charles S. Morehead	Know-Nothing	1855-1859
Beriah Magoffin	Democrat	1859-1862
James F. Robinson	Union	1862-1863
Thomas E. Bramlette		1863-1867
John L. Helm	Democrat	1867
John W. Stevenson		1867-1871
Preston H. Leslie		1871-1875
James B. McCreary		1875-1879
Luke P. Blackburn		1879-1883
J. Proctor Knott		1883-1887
Simon B. Buckner		1887-1891
John Young Brown		1891-1895
William O. Bradley	Republican	1895-1899
William S. Taylor		1899-1900
William Goebel	Democrat	1900
J. C. W. Beckham		1900-1907
Augustus E. Willson	Republican	1907-1911
James B. McCreary	Democrat	1911-1915
Augustus O. Stanley		1915-1919
Edwin P. Morrow	Republican	1919-1924

William J. Fields	Democrat	1924-1927
Flem D. Sampson	Republican	1927-1931
Ruby Laffoon	Democrat	1931-1935
A. B. Chandler		1935-1939
Keen Johnson		1939-1943
Simeon S. Willis	Republican	1943-1947
Earle C. Clements	Democrat	1947-1951
Lawrence W. Wetherby		1951-

Legislature.—The Kentucky General Assembly consists of a House of Representatives of 100 members elected for two-year terms, and a Senate of 38 members elected for four-year terms. It convenes biennially in even years for a regular session of 60 days.

Courts.—The highest court in Kentucky is the court of appeals, which consists of seven judges elected for eight-year terms. Circuit court judges are elected for six-year terms, and county court judges, magistrates, and justices of the peace for four-year terms.

Suffrage and Elections.—All citizens 21 years of age and over, who have resided in the state for 1 year, in the county for 6 months, and in the district for 60 days, may vote in Kentucky elections. Registration is permanent, and absentee voting is permitted.

Local Government.—Each of the 120 counties in Kentucky maintains numerous officers and public functions. The present system of county government is basically that which was introduced into the region 16 years before the state government was organized under the first constitution. Local government is a powerful force in the administration of public affairs. It exercises independent taxing powers, controls the courts, regulates certain licensing laws, controls peace officers, exercises authority in matters of chancery, assesses property, and maintains schools. Cities are classified according to population their governing functions varying with classification.

Public Health and Welfare.—The state department of public health, through its local branches, inspects restaurants, barber and beauty shops, and food-handling establishments. A special law protects streams against industrial pollution.

Kentucky maintains four hospitals for the mentally ill, a home for the feeble-minded, a sanatorium for the tubercular, a children's home, and schools for the blind and the deaf. State laws provide for voluntary workmen's compensation and for old age pensions. The Frontier Nursing Service, founded by Mary Breckinridge in 1925, serves an extensive area in the mountains of eastern Kentucky. Correctional institutions maintained by the state consist of two prisons, a reformatory, and two schools.

Education.—The first school in Kentucky was opened at Harrodstown (now Harrodsburg) in 1775. In the early years most schools were private academies, but after 1833 an attempt was made to organize a statewide public school system. Although a public school law was enacted in 1838, it was not until after the constitution of 1849 was adopted that a genuine public school system was established. Through the influence of Robert J. Breckinridge (q.v.), the drafters of the constitution included a clause establishing a public school system as a state responsibility.

The state superintendent of public instruction is entrusted with the general supervision of Kentucky schools and the accrediting of public school teachers. In 1948, there were 5,691 public schools in the state. Of the 683,806 children enumerated in the school census of June 23, 1948, 580,567, or 84.9 per cent, were actually enrolled.

school. In the school year 1946-1947, the average state expenditure per pupil in average daily attendance was estimated at \$42.

Higher education in Kentucky was inaugurated in 1780, when the Virginia General Assembly chartered Transylvania Seminary (now Transylvania College, Lexington). The present university of Kentucky (Lexington) was founded in 1865. Among the 11 other colleges and universities in the state are Ashbury College (Wilmore), Berea College, Centre College of Kentucky (Danville), Georgetown College, Kentucky State College (Frankfort), the University of Louisville, and Union College (Barbourville). There are 5 teachers colleges, of which 4—Western Kentucky, Eastern Kentucky, Murray, and Morehead—are state supported; 5 professional schools; and 14 junior colleges.

History.—The exploration of Kentucky was undertaken as part of the rivalry between England and France in the Ohio Valley. In 1750, Dr. Thomas Walker was sent to the region by the Loyal Land Company, a Virginia company, and in the following year, Christopher Gist (q.v.) explored the Ohio Valley on behalf of the Ohio Company (q.v.). Both men kept journals which have proved of value to historians, but their expeditions had little immediate effect. Conditions along the frontier were disturbed by the French and Indian War, and it was not until 1769 that the first major white movement into Kentucky took place. In that year, Daniel Boone (q.v.), John Finley, and a party of hunters crossed the Cumberland Gap from the Yadkin Valley in North Carolina. After a two-year stay in Kentucky, Boone returned to North Carolina. In 1773, he moved with his family and several neighbors toward the West. After

Indian attack in Cumberland Gap, the party turned back to the Clinch River Valley, and Boone was denied the honor of being the first settler in Kentucky. In the following year, James Harrod and a party of surveyors appeared on the Kentucky River, and eight miles south of this stream they began building a series of cabins which were to become Harrodstown (now Harrodsburg), the first permanent settlement in the region. At the same time, a party of surveyors was laying claim to the lands near the Falls of the Ohio. Both groups were recalled because of the outbreak of Lord Dunmore's War (see COLONIAL WARS IN AMERICA), but Harrodstown was resettled in March 1775.

The Indian situation in Kentucky at this time was somewhat curious. No tribe had been able to claim the land for its own use, and there were no permanent Indian villages in the country. The old Shawnee trading village of Eskipakithiki (Indian Old Fields) in Clark County had disappeared, and Kentucky had become a hunting ground fought over by southern and northern tribes. White settlement west of the Appalachians was forbidden by King George III's Proclamation of 1763. Harrod and his men ignored the proclamation and founded a new civilization in what was technically Indian territory.

Meanwhile, Judge Richard Henderson (q.v.) of North Carolina had organized the Transylvania Land Company. In March 1775, the company negotiated the Treaty of Sycamore Shoals with the Cherokee Indians, thereby securing control of the land south of the Kentucky River, north of the Cumberland, and west of the Ap-

palachian highlands amounting to approximately 17,000,000 acres. Late in March, they dispatched Daniel Boone as their agent to blaze a trail from Cumberland Gap to the Kentucky. He arrived at the Kentucky in April and began building the fort which was to be called Boonesborough (now Boonsboro). Following on Boone's heels, Henderson came to take command of the Transylvania colony. He called a meeting of delegates from Harrodstown and other newly established posts to consider frontier legislation and to assist in establishing a colonial government. Apparently, Henderson wished to organize a 14th colony. He was opposed by George Rogers Clark (q.v.), who represented Virginia's interest in Kentucky. In June 1776, Clark organized a movement to establish a local branch of the Virginian colonial government in Harrodstown. He and John Gabriel Jones were sent as delegates to the Virginia General Assembly, but they failed to reach Williamsburg in time to meet with that body. Clark did, however, succeed in having Virginia's authority spread formally over the region by the organization, on Dec. 31, 1776, of Kentucky County, and he also secured a limited amount of military supplies for the defense of the settlers against Indian attacks. Henderson was forced to release the Transylvania colony's claims to land secured in the Sycamore Shoals grant, later receiving in exchange 200,000 acres in what is now Henderson County. Clark and Jones returned to Kentucky in 1777, but by the time they reached the Ohio it was evident that the Indian menace had become so great that more effective measures than a gift of powder and lead would have to be taken by the Virginia assembly.

Indian hostility had been intensified by the steady growth of white settlement. Between 1775 and 1777, a constant stream of settlers came down the Ohio River or over the Wilderness Road through Cumberland Gap (see WILDERNESS ROUTE). Most of them came from Virginia; others were natives of Pennsylvania, Maryland, and the Carolinas. They had left their former homes for varied reasons—fear of war in the East, the decreasing fertility of the land in some of the Virginia counties, the burden of debt, the spirit of adventure, a desire to speculate in Western lands, and claims for bounty lands due because of service in the Virginia line. For the most part, they were interested in making permanent homes in Kentucky.

It was clearly evident to the Indians that the white settlers were there to stay unless their early hold on the land could be broken. Encouraged by their British allies, led by Governor Henry Hamilton at Detroit, the Indians kept up a constant attack on the white settlers. The year 1777 was especially tragic. It became known to the settlers as the frightful year of the "three 7's" in which they almost perished from Indian attack and starvation.

Back at Harrodstown, Clark made plans for a campaign against the British. He sent two messengers across the Ohio to spy on the British-Indian posts of Vincennes and Kaskaskia. Upon their return, he left for Virginia to secure permission to take the war to the enemy as a means of halting the devastating raids on the settlements. Calling upon Governor Patrick Henry (q.v.) and other Virginian officials, Clark persuaded them to allow him to cross the Ohio with 350 men to attack Kaskaskia and Vincennes,

and eventually Detroit. His orders were issued in two sets, one public and one secret. The secret orders instructed him to raise 350 men outside of Virginia, with the promise that they would receive generous land grants, and to conduct an expedition beyond the Ohio.

Clark returned to Kentucky by way of Redstone and Fort Pitt on a recruiting expedition. His representatives also sought volunteers in the Holston settlements of Tennessee. In May 1778, he was at the Falls of the Ohio, where he established his post on Corn Island. He had far fewer than the 350 men he wanted, but his plans went forward, and on June 24, during a total eclipse of the sun, Clark and a band of about 168 men went over the rocky shoals of the falls in pirogues. On July 4, they captured Kaskaskia, and later occupied Cahokia and Vincennes. (See ILLINOIS and INDIANA.) Clark's campaign broke British strength in the Northwest.

Back in Kentucky, the Indian attacks had continued. In January 1778, Daniel Boone and a party of saltmakers were captured at the Lower Blue Licks and taken as prisoners of war to Detroit. Boone was adopted by Chief Blackfish, but escaped when he overheard the chief plotting an attack on Boonesborough. He returned to the fort to prepare the settlers for the attack, which they were able to repulse.

The failure of the attack on Boonesborough and Clark's victories north of the Ohio saved the Kentucky settlements from destruction. In August 1782, an Indian raid was repulsed at Bryan Station in Fayette County. In following up this attack, the settlers made an ill-advised assault upon the retreating Indians and were defeated. The Battle of Blue Licks, as it was called, nevertheless marked the end of any serious Indian menace. (Indian claims to Kentucky lands were finally eliminated in 1818, when Andrew Jackson and Governor Isaac Shelby (qq.v.) purchased some 7,000,000 acres in western Kentucky and Tennessee from the Chickasaw. The Kentucky section of the Jackson Purchase, as it was called, now forms eight counties.)

In the meantime, the Revolutionary War had ended, and soldiers came West to claim their bounties. They were followed by hundreds of other settlers. Lexington, Danville, Louisville, Washington, and other towns grew up. In 1776 and 1779, the Virginia assembly enacted land laws in an attempt to adjust conflicting claims, and in 1779 a land commission was created. The need for more effective local government became acute. Between 1784 and 1791, nine conventions were held in Danville to consider the creation of a new state of Kentucky, and Virginia prescribed the terms by which Kentucky should be separated in three enabling acts. Finally, in April 1792, a constitution was drafted, and on June 1, Kentucky was admitted to the Union as the 15th state. This first constitution provided for a governor chosen by an electoral college, a bicameral legislature, and a court of three judges. It included an elaborate bill of rights and a provision for manhood suffrage. Slavery was permitted.

By 1790, Kentucky had a population of 73,677, and the tide of immigration was rising. The pattern of the future agrarian state was fairly well developed. Socially, Kentucky was to retain many of the customs of the older society east of the Appalachians. As a surplus of agricultural products was created, trade be-

came important. Kentucky's chief market was down the Mississippi. At that time, Louisiana belonged to Spain, and Spain controlled navigation down the river. It was against this background of economic pressure that James Wilkinson (q.v.) sought to make Kentucky part of the Spanish Empire. (Kentuckians also became involved in the intrigues of Edmond Genêt (q.v.) in 1794. Democratic clubs were organized and some men in the state subscribed to plans to promote the French cause in the Ohio and Mississippi valleys.) By 1787, however, the Mississippi was opened to down-river trade, and free navigation was guaranteed by a treaty which Thomas Pinckney (q.v.) negotiated with Spain in 1795. By the end of the 18th century, whisky, hemp, flour, and tobacco were being sold down the Mississippi for a rather handsome cash return.

By 1798 the first constitution had proved inadequate, and a new convention was called in Frankfort for the following year. The second document created the office of lieutenant governor, corrected the defects of the court system, and provided for direct election of the governor and senators. An attempt by Henry Clay (q.v.) to have included an antislavery clause was defeated. Like other Western areas, Kentucky was antifederalist, and the Alien and Sedition Laws aroused considerable opposition. In 1798 and 1799, the legislature passed resolutions condemning the laws and favoring states' rights. (See KENTUCKY RESOLUTIONS.)

Between 1800 and 1850, Kentucky settled down to a period of maturing. The Louisiana Purchase in 1803 had removed foreign restrictions on the produce trade downstream. By 1811, steamboats were facilitating Kentucky trade. Louisville grew into an important trade center, and by 1820 it had supplanted Lexington as the chief Kentucky city. Between 1831 and 1860 the basic railroad system was built, and Kentucky trade in manufactured goods, slaves, agricultural products, and livestock increased materially.

The expansion of the slave system in the new states of the Deep South meant prosperity for Kentucky planters. Sentiment on the question of slavery was divided, however, and there were a number of prominent Kentucky abolitionists, including Cassius M. Clay, James G. Birney, and Robert J. Breckinridge (qq.v.). An attempt to abolish slavery at the constitutional convention of 1849 was defeated, and it was not until the adoption of the 13th Amendment to the United States Constitution in 1865 that slavery was finally ended in Kentucky.

Kentuckians wholeheartedly supported both the War of 1812 and the Mexican War. In fact, the efforts of two Kentucky leaders, Henry Clay and Richard M. Johnson (q.v.), who were motivated by the frontier spirit of expansion and fear of the Indians, did much to influence Congress in declaring war against Great Britain in 1812. Kentuckians participated in the fighting between the whites and the Indians at Tippecanoe in Indiana in 1811, and they contributed more than 7,000 men to the militia and the army in the War of 1812. They also played a major role in the fighting in Mexico in 1847.

With its divided loyalties, Kentucky chose to remain neutral in the Civil War, hoping to preserve a spirit of conciliation between the opposing sides. (See BORDER STATES.) Because

strategic position and the partisanship of any of its citizens, however, its neutrality was not respected. On Sept. 3, 1861, Confederate general Leonidas Polk invaded the state to seize the bluffs overlooking the Mississippi at Columbus. For four years, the state was caught in a vise between invading forces. Early in the war, Louisville was captured by Union troops and remained under Union control until the end of 1862, another Confederate general, Edmund Kirby Smith (q.v.), captured Lexington, and in September of that year, Gen. Braxton Bragg (q.v.) invaded the state from the South. Bragg was defeated by a Union army led by Gen. Don Carlos Buell (q.v.) at Perryville on Oct. 8, 1862, and thereafter the Southern forces withdrew from Kentucky. (See PERRYVILLE, BATTLE OF, AND THE KENTUCKY CAMPAIGN OF 1862.)

John Hunt Morgan's forces dashed through Kentucky on two major raids (see MORGAN'S RAID INTO INDIANA AND OHIO), and there was considerable skirmishing through eastern Kentucky by Union and Confederate troops, but by 1863 the major portion of the fighting in the state was over. Nevertheless, guerillas kept up a continuous struggle which necessitated the maintenance of a strong home guard. Perhaps the most important effect of the war on the state was the disturbance of its political life and economy.

Before the war, the Whig, and later the Know-Nothing, parties had been strong in Kentucky, and after the war the Republican Party had some adherents. Because even the strongest Unionists disapproved of the Reconstruction policy of the federal government, the Democratic Party became dominant after the war, and it was not until 1895 that a Republican governor was elected. Thereafter, control of the state was divided between the two parties.

Economically, the state grew rapidly. After 1867, Burley tobacco became a major crop, and by 1890 tobacco had displaced hemp as Kentucky's leading crop. By 1889 the railroad system had expanded sufficiently to permit the opening of the eastern coal fields. In 1894, there was violent resistance to the continuation of the private toll road system, and the state was forced to take over the highways. In 1912, a department of public roads was created, and by 1918 the construction of a modern road system had begun.

Between 1890 and 1922 a complete revolution took place in the sale of tobacco. A buyers' monopoly was broken by the so-called Black Patch War of 1906-1909, in which night riders terrorized growers who refused to boycott the monopoly. In 1921, the tobacco industry was badly hit by the postwar depression. Through the organization of the Burley pool, which controlled marketing conditions by initiating the open-floor auction system and by supplying the market demand, the tobacco industry was somewhat stabilized. Both the Agricultural Adjustment Act of 1933 and the Soil Conservation Act of 1937 were supported by Kentucky tobacco growers.

The history of Kentucky in the 20th century has closely paralleled that of the nation. In World War I, 75,043 Kentuckians served in the armed forces, and in World War II, 323,798. The barriers of isolation, particularly strong in western Kentucky, have been lowered; and new industries, improved education facilities with a

consequent sharp drop in illiteracy, improved farm and industrial income, and closer connections with other areas have helped to make the state a keystone of the Ohio Valley border region.

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KENTUCKY, Oil and Gas Resources of. Petroleum was first discovered in Kentucky in 1819, in the valley of the south fork of the Cumberland River, close to the Tennessee line in what is now McCreary County, but was then Wayne County. The strike was made by Martin Beatty, of Abingdon, Va., while drilling a shallow well for salt. Cumberland County followed with a flowing production from the Upper Ordovician rocks in 1829, and a few years later oil was found in the Lower Coal Measures near Harboursville, Knox County. In the late 1860's, a wave of oil and gas prospecting spread over Kentucky, following the post-Civil War depression. Allen, Barren, Clinton, and many other counties joined the list of growing producers. During the latter part of the 19th century, wells were drilled in every county in the state, and substantial, though small, new oil production came from deeper sands in Floyd, Knox, and Wayne counties. Martin, Meade, and Breckenridge counties at the same time developed gas in commercial quantity. In 1900, the Ragland field, in Bath and Rowan counties, was drilled in, production coming from the Onondaga or Corniferous limestone. The Sunnybrook pool of Wayne County was opened in 1901, the oil coming at a depth of 870 feet from the Mississippian sands. Deeper drilling in the older fields continued with varying success, the greater part of the oil being transported to the northeastern markets by the Cumberland pipeline. The Cannel City pool, in Morgan County, was discovered in 1912, and in 1913 this small field produced its maximum: 12,000 barrels of crude oil per month. This production came from the same Onondaga limestone, and in large quantity was relatively short lived. In 1903, the Campton pool of Wolfe County was discovered, oil being found in the Onondaga limestone at about 1,250 feet. About 300 wells, producing an average of 50 barrels each, were drilled in this field. The Menefee gas field was drilled in 1901, gas coming from the Onondaga limestone at an average depth of 600 feet. Small oil production was obtained in Estill County, near Irvine, in 1903, but because of the shallowness of the Onondaga limestone, this was soon exhausted. Additional pools were discovered during World War I.

Refineries are located at Louisville, Latonia, and Pryse, near Irvine, but most of the oil is refined outside the state. The total Kentucky oil production for 1946 was 10,578,000 barrels. In

the same year, the state produced 80,000,000,000 cubic feet of natural gas. Geologically, the accumulation of petroleum in Kentucky is generally anticlinal below the top of the Mississippian system, and synclinal above. Sand porosity is perhaps the greatest accompanying factor in the larger fields. The geological range of production is from Ordovician to Pennsylvanian, inclusive. Later developments in the eastern part of the state included fields in McGoffin, Johnson, and Lawrence counties. The developments in the southwestern part extended from Allen, Warren, and Barren into the adjoining counties, notably Cumberland, along the Tennessee line. Other fields were opened farther north, in the western coal basin near Whitesville in Daviess County and Fordsville in Ohio County. These two counties and the adjoining part of Hancock County soon formed the most active drilling area of the state. The structure there is determined largely by the Rough River anticline. In general, western Kentucky produces approximately 82 per cent of the state's total crude oil output.

PRODUCTION OF PETROLEUM IN KENTUCKY
(in barrels of 42 gallons)

1917	3,035,640
1919	7,926,200
1920-22 (average)	8,874,600
1926-30 (average)	7,094,400
1931-35 (average)	5,493,000
1940	5,193,000
1942	4,534,000
1943	7,883,000
1944	9,621,000
1945	10,325,000
1950	10,381,000

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KENTUCKY, University of, a coeducational institution at Lexington, Ky. It was founded in 1865 as the department of agriculture and mechanic arts within Kentucky University (now known as Transylvania College). In 1878, this department was removed from the university, transferred to Lexington, and reorganized by an act of the legislature into a separate state-supported institution under the name of the College of Agriculture and Mechanical Arts. In 1908, the latter became the State University of Kentucky, and in 1916, the University of Kentucky. The university has colleges of arts and sciences, agriculture and home economics, engineering, law, education, commerce, and (at Louisville) pharmacy; a graduate school; a summer session; and university extension courses. The campus comprises 106 acres and over 50 buildings. The university also maintains a 600-acre experiment station farm; a 15,000-acre forest reserve and subexperiment station at Quicksand; and a subexperiment station farm of 600 acres at Princeton. Biennial appropriations are received from the state in addition to aid from federal sources. The students number about 7,500.

KENTUCKY BASS. See **BASS.**

KENTUCKY BLUEGRASS. See **GRASSES.**

KENTUCKY COFFEE TREE (*Gymnocladus dioica*), a large tree allied to the locusts and redbuds, of the family Caesalpiniaceae. It grows rather sparsely throughout the middle Mississippi Valley. See **GYMNOCLADUS.**

KENTUCKY DERBY, major American horse race, held annually in May at Churchill Downs, near Louisville, Ky. See also **HORSE.**

KENTUCKY RESOLUTIONS, a series of nine resolutions introduced into the Kentucky legislature in 1798 by George Nicholas, although it was afterward known that they were written by Thomas Jefferson. The resolutions were directed against the Alien and Sedition Acts, and against laws passed to punish frauds on the Bank of the United States, and they emphasized the rights of the several states. They were the outgrowth, together with a similar series known as the Virginia Resolutions, of a feeling that the Federalists were making a strained and illegitimate use of the powers granted to the federal government by the Constitution. The Kentucky Resolutions were passed for the purpose of defining the strict construction view of the relative powers of the states and the federal government. They declared that the Union was not based on the "principle of unlimited submission to the General Government"; that the Constitution was a compact, to which each state was a party as over against its fellow states; and that, in all cases not specified in the compact, each party had a right to judge for itself both infractions and the mode and measure of redress. The resolutions declared the Alien and Sedition Acts unconstitutional and invited other states to join in declaring them void. No favorable response was received. In 1799, the Kentucky legislature went further and declared that nullification of a federal law by a state was the rightful remedy in cases of federal usurpation. The later doctrines of nullification and secession were founded on these resolutions.

KENTUCKY RIVER, a river of Kentucky, formed by three streams which rise in the Cumberland Mountains and meet near Beattyville. After a winding northwest course of about 250 miles, the river enters the Ohio at Carleton, midway between Cincinnati and Louisville. For part of this distance it passes between perpendicular limestone walls. It is navigable as far as Heidelberg, with the aid of 14 locks, but there is comparatively little traffic. At High Bridge, Jessamine County, midway between Nicholasville and Harrodsburg, is a celebrated bridge erected in the late 1870's, one of the first long-span cantilever bridges built in the United States. In 1910, a new structure was built 313 feet above the grade of the old bridge. The height of the top chord of the new bridge is more than 319 feet above the base of the foundation of the piers. In the pioneer period, the Kentucky was a major route into the area. On the river is the town of Boonsboro, built on the site of the fort erected in 1775 by Daniel Boone, and the state capital, Frankfort.

Consult Clark, Thomas Dionysius, *Kentucky in Rivers of America Series*, illustrated by A. Spelman, III (New York 1942).

KENTUCKY WARBLER (*Opaporhynchus formosus*), a warbler of the eastern and central United States. Its back is an olive green, and its under parts are yellow. The crown is black with a yellow strip around the eyes.

KENTVILLE, county town of Kin County, Nova Scotia, Canada. It lies about

miles northwest of Halifax. It is the headquarters of the Dominion Atlantic Railway, and contains the offices of the principal fruit-marketing companies of Annapolis Valley. Manufactures of the town include milling machinery, gasoline engines, and woodwork. In the vicinity is a Dominion experimental farm and a provincial sanatorium. Pop. 3,850.

KENYA COLONY AND PROTECTORATE, British territory in east central Africa, formerly known popularly as British East Africa. It is bounded on the east by the Indian Ocean and Somaliland (formerly Italian), on the north by Ethiopia and the Anglo-Egyptian Sudan, on the west by Uganda Protectorate and Lake Victoria, and on the south by Tanganyika Territory. The total area is 224,960 square miles, of which the protectorate comprises only some 2,000 square miles, principally mainland dominions of the sultan of Zanzibar; these latter, leased to Great Britain in 1895, consist of a strip of the coastal lands to a depth of 10 miles, together with a few small islands, of which the principal is Mombasa. The population of Kenya was estimated in 1944 to number 3,937,533; besides 3,825,533 Africans, there were 61,000 Asiatics (chiefly from British India), 32,000 whites, and 19,000 Arabs. The capital is Nairobi (pop. 65,000), situated on the interior plateau at an elevation of 5,452 feet, 330 miles by rail from Mombasa, and the principal seaport is Kilindini, on the west side of the island of Mombasa (pop. 89,837); Kisumu is a port on Lake Victoria, and inland centers of population include Nakuru and Eldoret. The status of the territory as colony and protectorate became effective in 1920, prior to which year the country had been under British control since late in the 19th century.

From a low-lying coastal zone varying in width from 2 to 10 miles, the surface rises steadily to an elevated plateau some 5,000–8,000 feet above sea level through which extends the remarkable terrestrial cleavage known as the Great Rift Valley (q.v.). Rising from the plateau are the Aberdares, and other mountain ranges, the highest peak of which is the extinct volcano, Mount Kenya, 17,040 feet, for which the colony and protectorate are named; the glaciers of the mountain on its northern slopes are exactly on the line of the equator. The boundary between Kenya and Uganda passes through the center of Mount Elgon, 14,136 feet, the upper part of which is sometimes covered with snow. The eastern third of the colony slopes gradually to Lake Victoria, the surface of which is 3,726 feet above sea level. On the western and northern borders of Kenya are lakes Victoria and Rudolf (q.v.), respectively, and numerous smaller lakes within the country include Naivasha and Nakuru. Lake Tana (q.v.) is the longest of the relatively few rivers. While the climate of the lowlands, both in the east and west, is tropical, with considerable heat and high humidity, the highlands constituting most of the center of the colony have an equable climate well adapted for white settlement; the coolest months are from June to August. Between March and May, the longer of the two rainy seasons, there is considerable rainfall, particularly in the highlands, some parts of which have an annual precipitation averaging 100 inches. Thornbush is characteristic of the lowland areas, with much mangrove near the seacoast, while the highlands consist of vast

stretches of grasslands interspersed with forest containing many varieties of valuable timber. Over the grass plains roam vast herds of big game, whose grazing lands stretch for great distances along either side of the railway. Lion, leopard, giraffe, buffalo, and other mammals are plentiful, as are gazelles, antelopes, and zebra in immense numbers. Large deposits of carbonate of soda at Lake Magadi, southwest of Nairobi, have long been worked, as have both gold and silver; other known minerals include arsenical pyrites, asbestos, graphite, manganese, mica, and talc.

While the protectorate is peopled largely by Arabs, the native inhabitants of the interior highlands of the colony comprise several divisions of the Masai (q.v.), a non-Bantu tribe. Farther to the west, where the land descends to the shores of Lake Victoria, Nilotic tribes predominate; nomadic tribes of Somali stock inhabit the arid northeastern portion of the country. There is a great diversity of languages, with Swahili, a Bantu language with large Arabic admixtures, employed as a lingua franca by natives, Indians, and whites alike. The white population is predominantly British in origin; early in the 20th century their numbers were augmented by some 700 Dutch men, women, and children who, leaving the Transvaal when its independence was lost in the South African War (q.v.), made the long trek (some 2,000 miles) through Mozambique and German East Africa only to settle, once again under the British flag, on the Uasin Gishu plateau of what was then the East Africa Protectorate. During World War II thousands of Italian prisoners and tens of thousands of refugees (Poles, Greeks, and others) were accommodated in the highlands, and many of these subsequently established their homes there. The Arabs and others in the coastal areas are Moslems, while the tribes in the highlands are pagan; among the latter work numerous British, American, French, and Swedish missions, both Protestant and Roman Catholic. The missions conduct the majority of the non-government schools (2,729 in 1944), which are, however, in receipt of state aid; schools directly administered by the government numbered 46 in 1944 (14 each for Africans and Indians, 11 for white children, and 7 for Arabs and Somalis).

Kenya is administered by a governor, who is aided by an Executive Council of eight members (four officials and four nominated unofficials) and a Legislative Council of 40 (11 elected white members, five elected Indians, one elected and one nominated Arab, two nominated unofficial representatives of the natives, and 11 ex officio and nine nominated officials); in 1944, for the first time, a native was nominated as one of the two unofficial representatives of native interests. Local government in Nairobi and Mombasa is conducted by elected municipalities. While white settlement in native reserves is forbidden, natives are encouraged to make their homes in white-settled districts. In 1944 the British government made available to Kenya £250,000 annually over a 10-year period for such long-term projects as hydrographic surveys and the establishment of additional agricultural schools for natives and teacher-training (agricultural) centers.

Kenya has great potentialities both as a source of foodstuffs and raw materials and as a market for manufactured goods. White settlers in the highland cultivate coffee, tea, wheat, corn

(maize), flax, and rye, and raise cattle on a large scale; wool, butter, and cheese production is of importance. The cultivation of pyrethrum was introduced during World War II, Japanese occupation of the Netherlands East Indies having deprived the world of cinchona, whence came quinine, used as a preventive of malaria. In the Kenya lowlands, east and west, sisal, sugar, coconuts, and cotton are produced. Lumbering is a considerable industry, the forests yielding olive and other hardwoods, conifers, and cedar, the last exported for the manufacture of pencils; another valuable export is the bark of wattle, an exotic tree established in numerous plantations. Industrial production received great stimulus in World War II, when lack of shipping necessitated local manufacture of many articles hitherto imported. Margarine was made from cottonseed oil and peanuts; vegetables were dehydrated; spinning and weaving became a new local industry; and locally-mined diatomite was used as a basis for various types of cleaning powders. Besides increased production of gold and sodium carbonate, numerous other minerals were mined in Kenya for the first time during the war. The colony exports a better grade of shade-dried animal hides than any other East African country; in the leather trade Kenya hides are known as "Mombasas," being named for the port of export. For customs purposes, Kenya and Uganda constitute a single administrative unit, and have a uniform customs tariff with Tanganyika Territory. The East Africa shilling, divided into 100 cents, is the unit of currency of Kenya, Uganda, Tanganyika Territory, and Zanzibar.

For many years, the Kenya and Uganda Railway lay exclusively within the former country, though at that period it was styled (solely) the "Uganda Railway." Built during 1895-1903 across British East Africa for a distance of 584 miles from Mombasa to Kisumu (at first known as Port Florence), on Lake Victoria, its original purpose was not the commercial development of the country but suppression of the slave trade then flourishing far from the coast, and more rapid communication with remote, land-locked Uganda, where a British protectorate had been established; the trials of the engineers and imported Indian laborers, beset by man-eating lions and hostile tribesmen during construction of the line, constitute an epic story. White settlement of the highlands followed the building of the line, and during 1924-28 the railway was extended from Nakuru around the northern end of Lake Victoria to enter Uganda, continuing to Kampala, the protectorate's commercial center. Including 10 branch lines, the total length of the system of the Kenya and Uganda Railway is 1,625 miles, of which the main line, from Mombasa to Kampala, accounts for 879 miles. The railway administration also operates steamer services on lakes Victoria, Kioga, and Albert (the two latter in Uganda), and on the upper reaches of the Nile, the route mileage being 3,853 miles; maintains sea and lake ports; and operates several motorbus services. Within Kenya lies 118 miles of the Great North Road, a highway running southward from Nairobi through Tanganyika Territory to Northern Rhodesia, a total distance of 928 miles; an extension of this highway northward from Nairobi continues through Uganda to reach Mongalla, in the Anglo-Egyptian Sudan. Kenya's roads of all types aggregate 16,537 miles in length, about one quarter of this

mileage being fit for motor traffic at all seasons of the year. Besides local air transport companies, Kenya is served by the Capetown-London planes operated by the South African and British governments; facilities at the Nairobi airport conform to international requirements. The postal and telegraphic services of Kenya are amalgamated with those of Uganda and Tanganyika Territory.

History.—With the interior of east central Africa wholly unknown in the western world, Mombasa was an important center of Arab power in the 8th century. The port was visited by Vasco da Gama (q.v.) in April 1498 and in 1505, it was captured by the Portuguese. Malindi, another port 66 miles to the northeast, shortly became the capital of Portuguese East Africa, and for 300 years the various Portuguese settlements withstood many attacks from the sea by Arabs and Turks and from the interior by African natives. With the loss of Mombasa in 1698 Portugal lost her hold on the east coast of Africa north of Mozambique; the Portuguese attacked the port in 1703, and again in 1710, and occupied it once more during 1728-1729, but by 1784 all trace of the former great influence of Portugal on the east African littoral had disappeared. Thereafter the ports were controlled by successive imams (rulers) of Muscat, in the Persian Gulf, whose representatives had their headquarters on the island of Zanzibar; renouncing allegiance to Muscat, in 1832 the imam's deputy at Zanzibar asserted his independence and claimed possession of a long strip of the mainland coastline. International agreements in 1886 defined these mainland territories as extending 10 miles inland, and within a few years the sultan sold outright his sovereign rights in those portions of them lying within German and Italian spheres of interest. The Imperial British East Africa (Ibea) Company, which received a royal charter in 1888 to develop the hinterland, obtained concession rights over the sultan's coastal lands between those strips sold to Italy and Germany, and proceeded, though slowly, to open up its hinterland territories. Because of financial difficulties which ensued, in 1895 the British government acquired the rights of the company in its territory, hitherto known as Ibea; while the company thereafter disappears from history, the name Ibea still survives in connection with the botanical names of certain trees.

The boundaries of the East Africa Protectorate (popularly termed British East Africa), as the country was then styled, were enlarged westward in 1902, the portion of Uganda east of Lake Victoria (through which ran the last section of the newly-constructed Uganda Railway), being transferred to it and becoming the province of Kisumu and Naivasha. Administration of the protectorate passed from the British Foreign Office to the Colonial Office in 1905, and that same year 6,000 square miles of fertile land in the highlands was offered for the colonization of Jews who had fled persecution in Russia; the offer was declined after an adverse report on the land by a Jewish representative. At this period however, began a steady influx of white settlers from Great Britain and South Africa, who farmed large areas in the highlands with the assistance of African labor. In consequence, administration of the country ceased to be a burden upon the British taxpayer, in 1912 the East Africa Protectorate becoming self-supporting



Above: Men of the Meru-Masai tribe in Kenya are doing the drum dance, in which, as if hypnotized, they work themselves into a frenzy and dance for hours on end.

KENYA COLONY

Right: The pyrethrum flowers these Kikuyus of Kenya have raised will be sold to make insect powder. Below left: His plaited hair shows this young Masai to be a warrior and fearless hunter of lions, which prey on the tribal herds. Below center: A Turkana chieftain in full dress, with a wooden knob on his chin. Below right: A Wakamba youth about to enter the tribal dance. He will improvise his own wild routines to the drumbeat.



(Right) Camera Press-Pix; (others) Toni Schuler from Pix Incorporated





Above Kikuyu warriors are dancing a high dance in one of their thatched villages

Left A tribal guard recruited from local natives to serve the district commissioner

Center right Kikuyus loyal to the government are trained in farming and the three R's

Bottom right The Kikuyu Women's Home Guard assists the men by patrolling the villages

(Above) Ewing Galloway (left) Levenberger from El Star (center right) United Press Photo (bottom) Camera Press-PIX

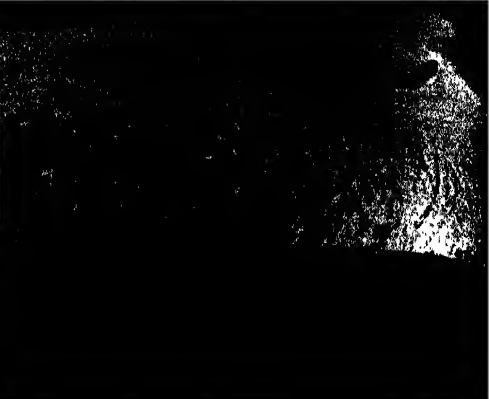
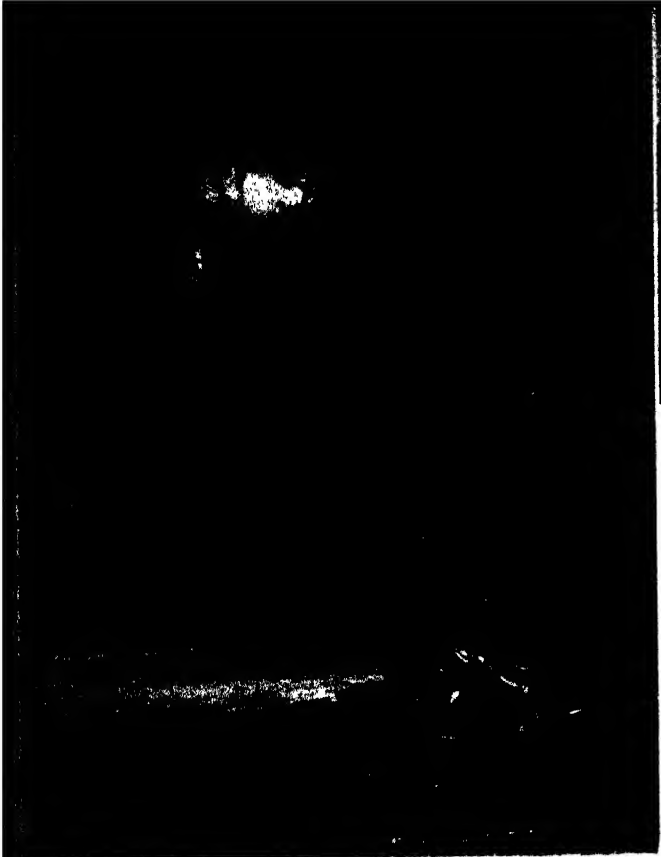




Nairobi, the busy capital of Kenya Colony, is a thriving modern city, the largest one in British East Africa. *Below:* Mount Kenya, an extinct volcano over 17,000 feet high, is on the equator, but eternal snow clothes its summit.

(Above) Ace Williams from Black Star; (below) Toni Schuler from PIX, Incorporated



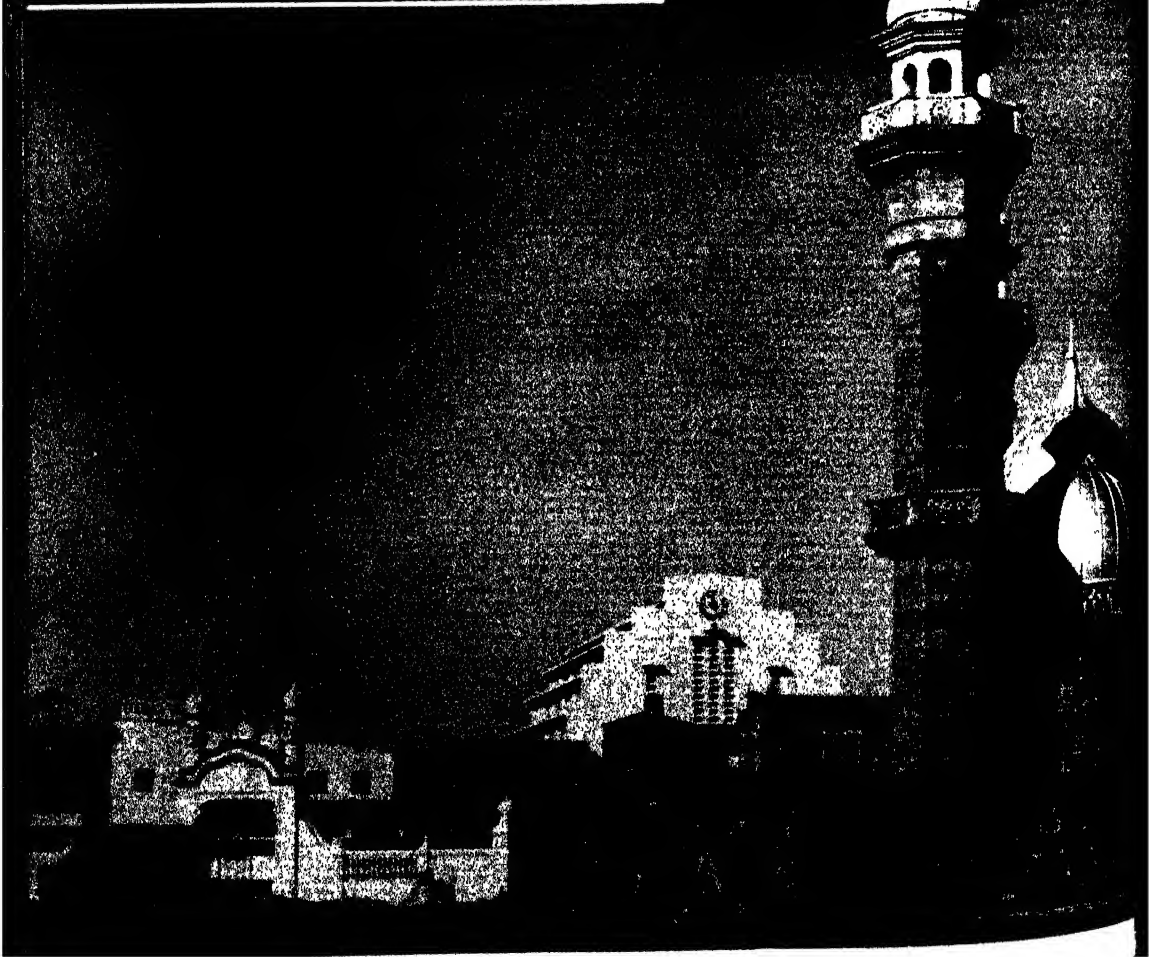


Above: Lewis Glacier, with a frozen lake at its foot, moves on Mount Kenya's summit just over the equator.

Left: Pressure lamps beam out across the labor lines of a Kenyan European's farm to deter Mau Mau marauders.

(Above, below) Ing. Ghiglione and Leuenberger from Black Star Camera Press-PIX

Below: The Great Mosque in Nairobi is a starting point for a safari into the wilds of East Africa.



Forces from German East Africa crossed the border on outbreak of World War I to attack the Uganda Railway, but they were soon driven off, and thereafter most of the settlers and thousands of natives served in the campaign which resulted in expulsion of the Germans from their colony. In 1920 the protectorate, with the exception of the leased mainland domains of the sultan of Zanzibar, was annexed to the British crown as a colony, and thenceforward the country was styled Kenya Colony and Protectorate. The arid and barren region west of Lake Rudolf and south of the Anglo-Egyptian Sudan was transferred in 1923 from the Uganda Protectorate to Kenya Colony in order to simplify problems of the frontier with Ethiopia; and the following year Britain agreed to transfer to Italy (conforming to the 1915 secret Treaty of London) the Jubaland Province of northeast Kenya, some 16,000 square miles in area, for annexation to Italian Somaliland.

In the spheres of economic development, communications, and research, Kenya has much in common with her neighbors, Tanganyika Territory and Uganda, and in order to secure a more efficient coordination of policy and to provide a constitutional basis for common services, in 1945 the British government published proposals for an interterritorial organization. Beginning in 1952, British soldiers were called upon to halt the widespread massacres by Mau Mau terrorists pledged to drive Europeans from Kenya. Whites as well as their native adherents were included in the depredations.

Consult Hobley, Charles W., *Kenya from Chartered Company to Crown Colony* (London 1929); Huxley, Elspeth J., *White Man's Country: Lord Delamere and the Making of Kenya*, 2 vols. (London 1933); Dilley, Marjorie R., *British Policy in Kenya Colony* (London 1938); Coupland, Sir Reginald, *East Africa and Its Invaders: From the Earliest Times to the Death of Seyid Said in 1856* (London 1938); id., *The Exploitation of East Africa, 1856-1890: The Slave Trade and the Scramble* (London 1939); Huxley, E. J., *Race and Politics in Kenya* (London 1944).

KENYON, kēn'yūn, Sir Frederic George, English classical scholar: b. London, England, Jan. 15, 1863; d. Godstone, Surrey, Aug. 23, 1952. In 1889, after tutoring at Oxford University, where he had graduated at New College, he joined the staff of the British Museum. He became assistant keeper of manuscripts in 1898, and from 1909 until his retirement in 1930 he served as director and principal librarian of the institution. In 1912 he was created a knight commander of the Order of the Bath (K.C.B.). He edited many classical texts, including three editions of Aristotle's *Constitution of Athens* (1891, 1904, and 1920); prepared catalogues of manuscripts in various of the museum's collections; and published much about the poetical work of the Brownings. From 1920 he served as president of the British School of Archaeology at Jerusalem. He was an eminent Biblical scholar and wrote extensively on the history, manuscripts, and textual criticism of the Bible.

KENYON, William Squire American jurist and legislator: b. Elyria, Ohio, June 10, 1869; d. Bath, Maine, Sept. 9, 1933. Educated in law at the State University of Iowa, he began to practice his profession at Fort Dodge, Iowa. After filling the offices of county prosecuting attorney, district judge, district attorney, and general attorney for the Illinois Central Railroad

(1907-1910), he became assistant to the attorney general of the United States (1910-1911), and United States senator (1911-1922). He belonged to the progressive wing of the Republican senators, favoring much legislation considered in his day to be advanced. With Congressman Edwin Yates Webb he was co-sponsor of the Webb-Kenyon Act of 1913 which prohibited shipment of intoxicating liquors in interstate commerce. In 1922 he resigned his seat in the Senate to accept appointment by President Warren G. Harding as judge of the United States Circuit Court for the 8th District; in this capacity he presided at the Teapot Dome trial, involving Albert Bacon Fall (q.v.) and others.

KENYON COLLEGE, for men, Gambier, Ohio, was founded in 1824 at Worthington, Ohio, by Bishop Philander Chase, as the Theological Seminary of the Protestant Episcopal Church in the diocese of Ohio. It was moved to Gambier in 1827, and in 1891 the name was changed to Kenyon College. It has a school of theology granting the bachelor of divinity degree. The college is generously endowed, and has a campus of 415 acres, its own radio station, and an airfield for instruction in aviation. The library contains about 93,000 volumes. The college publishes the *Kenyon Review*, a literary quarterly. The average enrollment is about 600 students.

KEOKUK, kē'ō-kūk, American Indian, chief of the Sac tribe: b. about 1790, near the site of the present city of Rock River, Ill.; d. probably early in 1848, at the Sac Agency, Franklin County, Kansas. When Black Hawk (q.v.) supported the British in the War of 1812, Keokuk assisted the Americans; and after the Black Hawk War, in 1832, he became the acknowledged leader of both the Sacs and the Foxes. In 1833, and again in 1837, he visited Washington, D.C., on the latter occasion concluding a treaty of peace between the Sacs and the Sioux. His grave is in Rand Park, Keokuk, Iowa, to which his remains were brought in 1883.

KEOKUK, Moses, American Indian chief: b. 1818; d. near Kansas City, Mo., October 1903. He was the son of Keokuk (q.v.), with whom he visited Washington, D.C., after the Black Hawk War. He succeeded his father as chief of the Sacs and the Foxes. In 1868 he removed with his people from Quenemo, Kans., to their reservation in what became Oklahoma.

KEOKUK, city, Iowa, and Lee County seat; altitude 478 feet; at the confluence of the Des Moines and Mississippi rivers; 42 miles southwest of Burlington. It is served by the Burlington; Chicago, Rock Island and Pacific; Wabash; and Toledo, Peoria and Western railroads. In 1856 a 12-mile railroad was built to haul freight around the Des Moines rapids at this point, and the United States government built a 9-mile canal here in 1877. By 1905 the canal had proved too small and the Mississippi River Power Company secured from Congress the right to build a dam and a hydroelectric plant here, which were completed in 1913. In return for the power rights granted it, the company built for the government the huge drydock and lock here. Lake Keokuk, with an area of 100 square miles, was formed by the new dam.

Keokuk has valuable commercial fisheries. Its

principal manufactures are corn and oats products, steel castings and ferro-alloys, calcium carbide, plastics, shoes, and fiber boxes. The only national cemetery in Iowa, established by the government in 1861, is in Keokuk.

Between 1854 and 1856, Mark Twain (Samuel Clemens), then a journeyman printer, worked in Keokuk as a compositor in the printing shop of his brother, Orion Clemens, and set a large part of the city's first directory. The room in which he worked, together with his type cases, print shop pictures, and chairs, has been preserved in the Iowa State Insurance Building.

The Indians called the place Puck-e-she-tuck, or "place at the foot of the rapids." The first permanent white settlement was made in 1820. In 1829 the American Fur Company opened a trading post and named it for the Indian chief Keokuk. Platted in 1837 and again in 1841, Keokuk was incorporated as a city by special charter in 1847. Pop. (1950) 16,144.

KEOS. See **KEA**.

KEPHIR, kě'fēr, a native Caucasian drink made from fermented milk. See **KEFIR**.

KEPI, kă'pē', French infantry cap. In derivation the word is apparently related to the English cap, though its origin is uncertain. It was first worn by French troops in Algeria; but the use spread to all the French infantry soldiers, and to school boys first in France, but afterwards to students of other countries. It has been much affected as a military cap by military schools and schools having a military department and student uniforms in the United States. It varies in style, but is always flat-topped with horizontal or slightly inclined vizor.

KEPLER, kěp'lēr, Johannes, German astronomer and mathematician: b. Weilder Stadt, Württemberg, Dec. 27, 1571; d. Regensburg, Nov. 15, 1630. A contemporary of Galileo Galilei and Tycho Brahe (qq.v.), he was one of the world's greatest astronomers, the real founder of modern astronomy; the one who first reduced the theory of the telescope to its true principles and laid down the common rules for finding the focal lengths of single lenses, and the magnifying power of telescopes. His excursions in geometry produced epoch-making results; he established the symbolism of the *sectio divina* or *proportio divina*, later known as the "golden section," and towered above all his contemporaries in stereometric investigation. He worked his way through elementary schools by winning scholarships which enabled him to reach the University of Tübingen. In 1593 he was appointed a teacher of mathematics at Gratz (Styria), where he devoted himself with much ardor to the study of astronomy, and attracted the attention of Tycho Brahe by dissertations on celestial orbits. But in 1599 religious persecutions commenced in Styria, and Kepler, being a Protestant, gladly accepted Tycho Brahe's invitation to Prague, to assist in the preparation of the new astronomical tables, called the Rodolphine tables. Tycho died in 1601 and Kepler continued the work alone, being appointed imperial mathematician and astronomer. After many years of incessant labor the tables were completed in 1624 and published in 1627 at Ulm. Kepler had become the possessor of all Tycho Brahe's papers, and the mass of observations

made by that astronomer during 20 years, with a precision till then unsurpassed, enabled Kepler to establish the famous *Kepler's Laws* (q.v.). The latter part of his life was chiefly passed at Linz as professor of mathematics. He wrote much, but the work that has rendered him immortal is his *Astronomia Nova, seu Physico-Coelestis tradita Commentariis de Motibus Stellae Martis* (*New Astronomy, or Celestial Physics: delivered in Commentaries on the Motions of Mars*) (1609). His *Harmonice Mundi* appeared in 1619; *De Stella Nova in Pede Serpentarii* (1606); *De Cometis* (1619-1620); and *Chilias Logarithmorum* (1624).

KEPLER'S LAWS, in astronomy, three laws of motion discovered by Johannes Kepler (q.v.) on which were founded Newton's discoveries, as well as the whole modern theory of the planets: (1) Every planet describes an ellipse, the sun occupying its focus. (2) The radius-vector (line joining the center of the sun with the center of the planet) of each planet sweeps over equal areas in equal times. (3) The squares of the periodic times (the periods of complete revolution around the sun) of any planets are proportional to the cubes of their mean distances from the sun. These laws enabled Sir Isaac Newton (q.v.) to determine the laws of the attraction of gravitation, while another result of these discoveries was to ensure for the Rodolphine tables an accuracy far exceeding that of any previous ones. Kepler did not apply his theory to comets, as he believed that they never returned. According to his idea the tail of the comet was evidence that the sun was driving the body of the comet away and dissipating its substance forever. See **ASTRONOMY, HISTORY OF**; also **GRAVITATION**.

KEPPEL, kěp'ēl, Augustus, 1st Viscount KEPPEL, British naval officer: b. April 25, 1725; d. Oct. 2, 1786. He was the second son of the 2d Earl of Albemarle, entered the sea service at 15 and went round the world with Lord Anson aboard the *Centurion*. In 1748 on a mission to the Barbary States he persuaded the dey of Algiers to suppress piracy, and negotiated a treaty with him. During the Seven Years' War he was in continuous service. In 1757 he was on the court-martial which condemned Admiral Byng, but joined those who vainly attempted to secure Byng's pardon. He accompanied Sir George Pockock on the expedition which captured Havana in 1762, his share of the prize money amounting to £25,000. The same year he became rear admiral and in 1770 vice admiral. Although politically a Whig in opposition to the ministry, he nevertheless saw service in the war with France resulting from the French alliance with the United States. Admiral Keppel was placed in command of the Channel fleet in 1778 and in July of that year engaged the French fleet off Ushant. Having become partly disabled he signaled for his van and rear divisions, but Sir Hugh Palliser, in command of the rear, ignored the signal until too late. Palliser accused him of incapacity and cowardice, but Keppel was honorably acquitted. In 1782 he was created Viscount Keppel and Baron Eldon. He was first lord of the admiralty 1782-1783.

KEPPEL, Sir Colin (Richard), British admiral: b. Dec. 3, 1862; d. Bracknell, Berkshire, England, July 6, 1947. After military service in

Egyptian waters and the Mediterranean principally, he became commander in 1895. His services in command of gunboats on the Nile (1897-98) were very effective, as was also his work in the Sudan (1899). He became rear admiral and was in command of the Atlantic Fleet (1909-1910). D. Bracknell, Eng., July 9, 1947.

KEPPEL, Frederick, American writer on art: b. Tullow, Ireland, 1846; d. 1912. Educated at Wesley College, Dublin, he came to the United States on graduation and opened, in New York City, a place as an art dealer, in which he acquired a national reputation, especially as a judge of etchings and engravings. He lectured, translated, and wrote original works on art. Among his publications were *The Etched Work of Jean François Millet* (translation); *Modern Disciples of Rembrandt* (1890); *Christmas in Art* (1909); *The Golden Age of Engraving* (1910). He opened branch houses in Paris and London.

KEPPEL, Frederick Paul, American educator: b. Staten Island, N.Y., July 2, 1875; d. New York City, Sept. 9, 1943. He was educated at Columbia University, from which he graduated with an A.B. degree in 1898. In 1900 he became assistant secretary of that institution, and secretary two years later; and in 1910, at the age of 35, he was made dean of the college. He held this position until 1918. From 1908 to 1918 he was secretary of the American Association for International Conciliation, and for the following year acted as 3rd assistant secretary of war. During 1919-20 he served as director of foreign operations for the American Red Cross; in 1920-22 he was commissioner for the United States International Chamber of Commerce. From 1923 to 1941 he was president of the Carnegie Corporation of New York (qv). His publications included: *The Undergraduate and His College* (1917); *Education for Adults* (1926); *The Foundation* (1930); *Philanthropy and Learning* (1936). With Robert Luther Duffus, he also wrote *The Arts in American Life* (1933).

KEPPEL, Sir Henry, English admiral and author: b. Kensington, June 14, 1809; d. Jan. 17, 1904. Son of the Earl of Albemarle, he was educated for the navy, in which he served from 1822, becoming successively, lieutenant (1829), commander (1833), and post captain (1837). He saw service in India, the Mediterranean, South Africa, and the Pacific Ocean; and commanded the naval brigade during the Crimean War (1854-55). He later held, in succession, the following offices, naval commander in chief at the Cape of Good Hope and on the Brazilian coast (1860-67); and vice admiral in chief of the China-Japanese squadron (1867-69). He was promoted admiral (1869), was knighted (1871), and became admiral of the fleet (1877). Among his published works were *Expedition of H. M. S. *Porpoise* to Borneo*, 2 vols. (1847); *A Visit to the Indian Archipelago*, 2 vols. (1853); *Reminiscences* (1898); *A Sailor's Life under Four Sovereigns*, 3 vols. (1899).

KEPPLER, Joseph, American caricaturist: b. Vienna, Austria, Feb. 1, 1838; d. New York, Feb. 19, 1894. He early made his reputation as a satiric artist and the leading periodicals of his native city were publishing his witty sketches,

almost before he had left the Academy of Fine Arts. But art was not then a serious business to him and he took to the stage as a comedian and opera singer; and actually began to study medicine at Saint Louis, Mo., where he made his residence in 1868. But it was in Saint Louis that he found his real vocation. There he established the German *Puck*, which, while it failed as a commercial enterprise, made his reputation. It was seen at once that a caricaturist of rare skill as a draftsman, of mental fertility and freshness, of witty and incisive satire, had appeared. He was engaged from 1872 to 1877 as caricaturist for *Frank Leslie's Illustrated Newspaper* in New York, to which city he had removed, and in 1875 he started a New York German *Puck* in association with Adolph Schwartzman. This was followed in 1877 by *Puck* in the English language. He was the first to use colored cartoons in caricature, and drew upon a vast store of classical and historical incidents for adaptation in criticizing modern social and political life.

KER, John, Scottish ecclesiastical writer and minister: b. Tweedmuir, 1819; d. 1886. Educated at Edinburgh University, he spent some time in Germany in post-graduate work. He became pastor of East Campbell Church, Glasgow, in 1851; and in 1876 was appointed professor of practical training in the United Presbyterian Theological Hall. Among his published works were *Sermons* (1868-88); *The Psalms in History and Biography* (1886); *The History of Preaching* (1888); and *Letters* (1890).

KER, William Paton, British scholar: b. Glasgow, Aug. 30, 1855; d. Macugnana, Italy, July 17, 1923. He was educated at Glasgow University and at Balliol College, Oxford University, and from 1883 to 1889 he was professor of English literature and history in the University College of South Wales, Cardiff. In 1889 he was appointed professor of English language and literature at University College, London, a post he held until 1922. He was elected professor of poetry at Oxford in 1920. His books included: *Epic and Romance* (1897); *The Dark Ages* (1904); *Essays on Mediaeval Literature* (1905); *The Art of Poetry* (1923).

KERATIN (from Gr. *keras*, a horn), a substance obtained from claws, feathers, hair, horn, nails, wool and other epidermal appendages. This tissue or substance is distinguished from gelatinous tissue by becoming soft when acted on by water for some time but no glue is produced. It is insoluble in alcohol and in ether and contains a high percentage of sulphur.

KERATRY, kā'rā'trē, Auguste Hilarion de, French author and statesman: b. Rennes, 1769; d. 1859. During the French Revolution he was twice imprisoned and ran great danger of being executed on account of his high family connections. Later he became a member of the Chamber of Deputies, and in 1830 worked with the Liberals for the overthrow of Charles X. Louis Philippe, for this work in his behalf, made Kératry a peer of France (1837). Among his published works were *Inductions Morales et physiologiques* (1817); *Du beau dans les arts d'imitation* (1822); *Le dernier des Beaumanoirs* (1824); *Fredéric Styndall* (1827); *Saphura* (1835).

KERATRY, COMTE **Émile de**, French soldier, politician, and man of letters: b. Paris, 1832; d. April 7, 1905. He was the son of Auguste Hilarion de Kératry (q.v.). Entering the army in 1854, he saw active service in the Crimean War, and in Mexico during the brief regime of Maximilian (q.v.). He resigned from the army in 1865 and returned to Paris, where he edited the *Revue Moderne*; his articles in its columns on the French occupation of Mexico attracted wide attention. In 1869 he was elected to the Chamber of Deputies, and the next year, after the fall of the Second Empire, he became prefect of Paris. During 1871-1872 he was employed by President Louis Adolphe Thiers (q.v.) in suppression of uprisings in various parts of France.

KERCH, kërch, Russia, a seaport in the Crimean Region, Russian Soviet Federated Socialist Republic, at the most easterly point of the Crimean peninsula. The town itself is old, dating to the first centuries of the Christian era; but it is built upon the site of a prehistoric city, the ancient mounds of which are still standing close by. Nearby there are also some old catacombs, the walls of which are covered with inscriptions of an early date. The church of Saint John the Baptist, which dates back to the year 717, shows strongly the Byzantine influence in its architecture. Kerch is a place of some commercial and industrial importance. This is due to its favorable situation between the Azov and the Black seas, which makes it one of the principal carrying ports of the south of Russia. It handles iron, grain, wool, hides, fish, oil and fruit (dried, and in its natural state), in addition to its own manufactured products, the most important of which are flour, lumber, lime, beer, tobacco, soap, candles, cement, and leather. The history of Kerch merges into that of Panticapaeum, an ancient city which, in its later days, became the capital of the kingdom of the Bosphorus. The Tatars captured it in the 13th century; and it fell into the hands of the Genoese in the following century. By the latter it was called Cerchio. Hence its modern name, slightly modified by the Turks, who came into possession of the city the following century, only to yield it to the Russians in 1773. During 1854-1855, in the Crimean War (q.v.), the seaport suffered severely; and in World War II it was the scene of fierce fighting between the Russians and the German invaders. Pop. (1939) 104,471.

KERCH, Strait of, called also **STRAIT OF YENIKALE**, yën-ê-kä'lä, east of the Crimean peninsula, connects the Black Sea with the Sea of Azov. About 25 miles long, and from 2 to 10 miles broad, it is so shallow in some places as to leave a channel of little more than two fathoms deep.

KEREN-HAPPUCH. The name of the daughter of Job, born in the time of his restored prosperity. The name means horn of the face paint, i.e., a cosmetic box, or as we might say Joy-face. In the Septuagint the word is Amalthea-Keras, meaning horn of plenty, and in that sense has reference to Job's gratitude for his prosperity.

KERENSKI, kyî-ryân'skû-i, **Aleksandr Feodorovich**, Russian revolutionary leader: b.

Simbirsk (Ulyanovsk), 1881. After graduating at the University of Saint Petersburg he practiced as a lawyer, gaining a reputation for defending those accused of political offenses. Although in reality a Social Democrat, he joined the Labor Party and in 1912 was elected to the Third Duma, where he was an impassioned and forceful speaker. He was a recognized leader in the Fourth Duma, and when the provisional government was formed following the revolution of February 1917 he became minister of justice. Appointed minister of war in May of that year, he visited the disorganized Russian front and persuaded the troops in the southwestern sector to resume their offensive against the Germans. In July he succeeded Prince Georgi Evgenievich Lvov (q.v.) as premier, but quickly came into conflict with Gen. Lavr Georgievich Kornilov (q.v.), the commander in chief, for giving privates virtually equal rights with officers. Kornilov subsequently made proposals for restoring discipline, and his position was strengthened by the fall of Riga, which he had predicted. Tardily Kerenski agreed to accept Kornilov's suggestions, but meanwhile Kornilov had indicated his belief that only a military dictatorship could save Russia and the army. This led to a conflict between him and Kerenski, in which the latter prevailed, and Kornilov was arrested. On Sept. 15 Kerenski proclaimed the Russian Republic, with himself as president of the provisional government, and he also assumed the chief command of all Russian forces. During October the power of the Bolsheviks increased, though Kerenski formed a new cabinet composed of Socialists and Moderates for the purpose of uniting Russia. Leon Trotsky (q.v.) denounced this government, and on November 8 he and Nikolai Lenin (q.v.) carried out a coup d'état. Kerenski fled from Moscow and attempted to march on the capital at the head of some troops. When this effort proved abortive, he made his way out of Russia, and in June 1918 he appeared in London. Thence he went to Paris, where he became editor of the *Uni*, a newspaper of the Social Revolutionaries. He visited the United States in 1927, and later took up residence there. His books included: *The Prelude to Bolshevism* (1919); *The Catastrophe* (1927); *Crucifixion of Liberty* (1934).

KERESAN, or **QUERES** (the aboriginal stock name), a group of Pueblo Indian tribes in seven permanent villages on the Rio Grande and to the westward thereof, in New Mexico. They form the Queres, or Keresan, linguistic family, speaking a distinct stock language. The Indians claim to have had their origin at Shipapu, a mythical place in the north from which they gradually drifted southward and occupied, still in prehistoric times, the Rito de los Frijoles, west of the Rio Grande, where they excavated the cave lodges in the soft volcanic tuffa cliffs still to be seen. These were abandoned before the coming of Coronado, in 1540, who found the Queres in seven pueblos (excluding Acoma and probably Sia) forming the province of Quirix, along the Rio Grande. In 1630 they were reported by Fray Alonso de Benavides to number 4,000, but this and other early estimates did not include the Acoma tribe. (See also PUEBLO INDIANS.) The present Queres pueblos are as follows:

Cochiti (native **Kotviti**).—On the west bank of the Rio Grande, 27 miles southwest of Santa Fé. In prehistoric times the natives of Cochiti and San Felipe formed one tribe, but on account of the hostility of the Tewas (see **TAVOAN FAMILY**), they divided, the latter building a village near their present pueblo, the former settling in the Potrero Viejo, which they later abandoned, moving to near their present location, where they were found by Oñate in 1598. The Cochiti villagers were active participants in the Pueblo revolt of 1680, killing their missionary, but continuing to occupy their town. On learning of the approach of the Spaniards to reconquer their town a couple of years later, they fled, with the people of Santo Domingo and San Felipe, to the Potrero Viejo where they remained almost uninterruptedly until 1692, when they were induced by Vargas to return to their homes. The Cochiti and Santo Domingo people again fled to the Potrero, however, where they were assaulted by Vargas in 1693 and severely defeated, 200 of their women being captured and their pueblo burned. Cochiti became the seat of the mission of San Buenaventura early in the 17th century. Of the 16 clans 4 are extinct.

San Felipe (native name **Katishtya**) — On the west bank of the Rio Grande, 12 miles above Bernalillo. Formerly combined with the people of Cochiti, but independently occupying the vicinity of the present site at least since 1540. It was the seat of one of the earliest missions of New Mexico, its first church being erected prior to 1607. The inhabitants participated with those of Cochiti and Santo Domingo in the great revolt of 1680, but aided Vargas in dislodging the Cochiteños from the Potrero Viejo in 1693. They had no resident missionary at the time of the revolt, but aided in murdering the priests of Cochiti and Santo Domingo. After leaving the Potrero in 1692 the San Felipe people built a new pueblo on a mesa northwest of their present town, where a church (the walls of which are still standing) was erected in 1694. This was abandoned early in the 18th century and the present pueblo established, the fourth to bear the name Katishtya. Of the 30 San Felipe clans 9 are extinct.

Santo Domingo (native name **Kiwa** or **Diya**).—On the east bank of the Rio Grande, 18 miles above Bernalillo. In prehistoric times the inhabitants occupied successively the Potrero de la Cañada Quemada and two pueblos called Guipuy, in the latter of which, on the Rio Grande, they were found by Oñate in 1598. Like its predecessor, the second Guipuy, as well as Huashpatzena, the settlement which followed, was swept away by flood, and the present Santo Domingo had three similar but less severe disasters between its founding in 1692 and 1886, when a freshet destroyed its fine old church with carved doors bearing the Spanish coat of arms. At the time of the Pueblo rebellion of 1680, it was an important mission seat and the residence of the custodian of the province, who, with two other priests, were slain. The pueblo has 18 surviving clans.

Santa Ana (native name **Tamaya**).—On the northern bank of the Rio Jemez, a western tributary of the Rio Grande. Before the Spanish advent the inhabitants lived nearer the Rio Grande and in 1598 resided on a mesa between

the present pueblo and San Felipe. They joined the San Felipe and Santo Domingo people in the great revolt, but in 1687 their village was carried by storm and burned, several of the natives perishing. The present town was built after 1692. It became a mission early in the 17th century, but had no resident missionary at the time of the rebellion. Santa Ana has 7 clans.

Sia (native **Tsia**).—On the north bank of Jemez River, 16 miles northwest of Bernalillo. It was formerly a pueblo of great importance, and in 1583 was said by Espejo to be the chief one of five towns forming the province of "Punames." It early became the seat of Nuestra Señora de la Asuncion. Its inhabitants made a most determined stand during the revolt of 1680, but in 1689 they were assaulted by the Spaniards, their pueblo wrecked, and the tribe decimated in the bloodiest engagement of the rebellion. Since this time the little tribe has been declining; Sia formerly had 37 clans, but of these only 16 survive.

Acoma (from **Akóme**, "People of the White Rock").—This pueblo and Laguna form the western division of the Queres stock. Acoma is picturesquely and strongly situated on a rock mesa, 357 feet high, about 60 miles west of the Rio Grande. It was first mentioned as "Aco" by Marcos de Niza in 1539 and visited by Coronado in 1540. Acoma has the distinction of being the oldest continuously occupied town in the United States. The natives treacherously killed several Spaniards of Oñate's force late in 1598, but in the following January the Spaniards led an expedition against the mesa, stormed and captured the town, killed about half the inhabitants, and burned some of the houses. Acoma became the seat of the mission of San Estevan in 1629; the natives murdered their missionary in the revolt of 1680, and remained in their fortified retreat until 1699, when they were induced to submit to the Spanish authorities. The present large adobe church, with its remarkable cemetery filled in with earth carried from the valley below, dates from the reconquest. In prehistoric times the Acomas lived on the summit of an even loftier mesa, known as Katzima, or the "Enchanted Mesa," three miles northeastward. According to tradition (verified by an examination of the summit and the surroundings of the mesa by F. W. Hodge in 1897), the only trail was washed away in a storm, leaving some of the inhabitants to perish; the village was henceforth abandoned. Population in 1680, 1,500; in 1760, 1,052; in 1902, 566. Of the 20 original clans 6 are now extinct.

Laguna (Span "lagoon," from a lake formerly west of the pueblo; native name **Kawaik**).—The largest of the Queres towns, and the most recently established of all the southwestern pueblos, having been founded in 1697 by refugee Queres from other villages, particularly Acoma, as well as by Indians of other stocks. It is situated on the Santa Fé Pacific Railroad, 17 miles northeast of Acoma. The town is being gradually abandoned, many of its inhabitants having moved permanently to their eight farming villages to the north and west. The Lagunas are very intelligent, honest and industrious, and are largely in demand as railroad laborers. The mission name of Laguna is

San José, applied also to the rivulet on which the town is situated. The tribe has 20 clans. The total population of the Keresan Indians is between 4,000 and 5,000. (See PUEBLO INDIANS). Consult Goddard, P. E., 'Indians of the Southwest' (New York 1913).

F. W. HODGE,

Museum, American Indian Heye Foundation.

KERGUELEN (kèrg'ě-lě'n) **LAND**, or **DESOLATION ISLAND**, an island in the Indian Ocean, intersected by lat. 49° 3' S., long. 68° 18' E.; length about 100 miles; greatest breadth about 50 miles; area, about 2,500 square miles. It has a remarkably barren and desolate appearance, due to the fact that it consists of lofty masses of basalt and other volcanic rocks. These rise to the height of 2,500 feet, presenting numerous bold headlands and ranges of precipitous cliffs, and possessing a very scanty vegetation. The highest point, Mount Ross, is over 6,000 feet. Sea-fowl are numerous but no indigenous land animals exist on it. Its indentations furnish several bays and inlets affording good harbors. It was annexed by France in 1893, and some settlers have made their abode there at Port Jeanne d'Arc since 1907. Of the flora, which is arctic, the most noteworthy species is the Kerguelen cabbage (*Pringlea antiscurbutica*), a large edible plant, in many ways resembling common garden cabbage, and which has been valued on account of its antiscorbutic properties. The name of the island is derived from Kerguelen-Trémarec (q.v.), a Breton navigator who discovered it in 1772. Captain Cook (who named it Desolation Island) visited there in 1776, as also did the *Challenger* in 1874. There are some 300 smaller islands scattered around, and the waters abound in fish, whales and seals.

KERGUELEN-TREMAREC, kār'gě-lān-trā'mā'rěk, **Yves Joseph de**, French explorer: b. Brittany, 1734; d. 1797. He served in the navy and in 1771 was sent in command of a corvette by the French government to explore a great continent that was supposed to lie southeast of Africa. He discovered Kerguelen island (q.v.), took possession in the name of France, and returned home with the news that he had found the "continent." His claim was discredited, though he was promoted as a reward by Louis XV. A second voyage in 1773-74 still failed to convince him that he had only found an island. Various charges were brought against him; he was court-martialed and imprisoned, but pardoned by the king and ordered to write an account of his explorations. Captain Cook explored the archipelago 1776-77 and dispelled the continental theory, which led the French government to order the destruction of the copies of Kerguelen's 'Relation de deux voyages dans les mers australes faits de 1770 à 1774', of which very few copies now exist. He wrote some other works and was made vice-admiral during the Revolution.

KERKI, kër-kě, a city on the Amu Darya (Oxus) River in Turkmenistan, Central Asia, about 150 miles southeast of Bokhara. Kerki, with its Russian-built fortifications which, a few years ago, were considered very strong, is situated on the Russian frontier and constitutes a centre of caravan trade, several routes of which stretch out from it in different directions. Pop. 5,000.

KERKUK, or **KIRKUK**, a division and city of Iraq, 140 miles almost straight north of Bagdad. It is the centre of an important trade in petroleum and naphtha, the products of a neighboring oil region. Among the other industries are pottery-making, cotton goods and tanning; while its commerce includes fruit, timber, silk and hides. Tradition says that in the city is the tomb of Daniel the prophet. Pop. of division, 92,000; of city, about 20,000.

KERLEREC, kār'lār'ěk', **Louis Billouart, Chevalier de**, French sailor and colonial statesman: b. Quimper, France, 1704; d. in France, 1770. After serving in the French navy and making a brilliant record for himself he became governor of Louisiana in 1752. He strove to defend the colony from the English privateers, the assaults of the Indians and the intrigues of British agents up the Mississippi. He worked under great difficulties for the French king took no interest in his great American possession. On his return to France Kerlérec was tried and found guilty of malfeasance in office, apparently unjustly. He appealed from the decision of the court but died before the case was decided.

KERMAN, or **KIRMAN**, Persia, province in the southern part, bounded on the north by Yezd and Khorasan, on the south by Baluchistan and Gulf of Oman, on the east by Seistan and Baluchistan and on the west by Fars. The northern part is largely covered by desert, while the south is a more or less mountainous region. Although the climate varies greatly because of the different elevations it is generally disagreeable and unhealthy. Cattle raising is extensive, also that of the well-known Kerman goats from whose soft hair manufactured the beautiful shawls of the same name. The principal exports are shawls, carpets, cotton, silk, gum and dates. Area, 65,000 square miles. Pop. about 600,000. The capital Kerman, is located in a fertile region at an elevation of about 5,600 feet. Nearby are the ruins of two ancient forts; in many places the walls are still in perfect condition. Among others of less importance, the two mosques which deserve mention are Masjid i Malik, built in the 11th century, and Masjid i Jama, dating from about the middle of the 14th century. Pop. of city 59,000.

KERMANSHAH, or **KIRMANSHAH**, Persia, town, capital of the province of same name. It is situated on a small river at an altitude of 5,100 feet, about 250 miles southwest of Teheran. Formerly strongly fortified, it is now practically an open town, and its location on the high road between Bagdad and Teheran greatly increases its commercial importance. It is noted for the manufacture of fine carpets, and also for its splendid horses. It has a very good trade in barley, wheat and fruit. Pop. about 70,000.

KERMES, the scarlet grain of Poland, cochineal, lac-lake, lac-dye, and all the modifications of gum-lac (see LAC) are either the perfect insects dried, or the secretions which they form. The first-mentioned substance is the *Coccus ilicis*. It is found in great abundance upon a species of evergreen oak (*Quercus coccifera*), which grows in many parts of Europe, and has been the basis of a crimson dye in the earliest ages of the arts. It was known

he Phoenicians before the time of Moses; the Greeks used it under the name of *kokkos*, and the Arabians under that of *kermes*. From the Greek and Arabian terms, and from the Latin name *vermiculatum*, given to it when it was known to be the product of a worm, have been derived the Latin *coccineus*, the French *cramoisi* and *vermeil*, and the English crimson and vermillion. The early Jews, the Greeks, the Romans, and until lately the tapestry makers of Europe, have used it as the most brilliant red dye known. The scarlet grain of Poland (*Coccus polonicus*) is found on the roots of the *Scleranthus perennis*, which grows in large quantities in the northeast of Europe and in some parts of England. This, as well as several other species, which afford a similar red dye, have, however, fallen into disuse since the introduction of cochineal; and the introduction of aniline dyes has greatly injured the cochineal industry.

KERMES MINERAL, a name given to amorphous antimony trisulphide. The native antimony trisulphide occurs in well-developed orthorhombic prisms. When this compound is fused for some time, and suddenly thrown into cold water, its crystalline structure is entirely destroyed. Kermes is a brown-red powder, becoming blackish-gray when washed with boiling water. By fusion it may be obtained as a solid mass, but it is totally devoid of crystalline structure. See **ANTIMONY**.

KERMIS or **KERMES**, kûr'mîs, formerly a church festival held by the Dutch in Flanders, and later in other parts of Europe, on the feast-day of the principal saint of a place or church. In the United States the word has come into general use for entertainments given for charitable purposes.

KERN, kĕrn, Jan Hendrick, Dutch Oriental scholar: b. Java, April 6, 1833; d. 1917. Educated at Leyden and Berlin. He taught Latin in aestrict Athenaeum (1858-1862) and from 1865 on was a professor at Leyden. Among his principal published writings are *Handleiding bij het onderwijs der Nederlandsche taal* (1879-1883); *Kakuntata* (1862); *Die Glossen in der ex Salica und die Sprache der Salischen Franken* (1869); *A Manual of Astronomy* (1874); *Over de aartelling der zuidelijke Buddhisten* (1875); *Geschiedenis van het Buddhisme in Indië* (1881-1883); *De Fidji-taal vergeleken met hare verwanten in Indonesië en Polynesië* (1886); *Manual of Indian Buddhism* (1896).

KERN, Jerome David, American composer: b. New York City, Jan. 27, 1885; d. there, Nov. 1, 1945. He first studied piano with his mother, later with Eva Leale. After graduating from Newark (N.J.) High School in 1902, he took courses at the New York College of Music with Alexander Lambert and Paolo Gallico. He had additional lessons in theory with Dr. Austin Pierce and Albert von Doenhoff, and studied privately with tutors in Germany in 1904-1905. He made his debut as a composer in England in 1903, and for several years wrote opening numbers for London musical shows. In 1910, he rewrote the score for *Mr. Wix of Wickham*, and the next year composed his first original musical comedy for Broadway, *The Red Petticoat*. Later he did the music for such shows as *The Girl from Utah* (1914); *Very Good Eddie* (1915); *Have a Heart* and *Oh Boy* (1917); *Rock-a-Bye*

Baby (1918); *Sally* (1920); *Stepping Stones* (1923); and *Sunny* (1925). His greatest achievement was the score for the musical version of Edna Ferber's novel, *Show Boat*. Produced in New York on Dec. 27, 1927, it has often been called the best American folk operetta. Thereafter, he provided the music for *Sweet Adeline* (1929); *The Cat and the Fiddle* (1931); *Music in the Air* (1932); *Roberta* (1933); and *Very Warm for May* (1939). In 1930, he went to Hollywood where he wrote scores for the following films: *Men of the Sky* (1930); *I Dream Too Much* (1935); *Swing Time* (1936); *High, Wide, and Handsome* and *When You're in Love* (1937); *The Joy of Living* (1938); *One Night in the Tropics* (1940); *You Were Never Lovelier* (1942); *Cover Girl* (1944); and *Can't Help Singing* (1945). A well-trained musician and careful craftsman, Kern was able to invest his tender and seductive melodies with a great variety of harmonic and rhythmic interest. He composed almost exclusively for the theater, and was largely responsible for a more imaginative and original treatment of musical comedy materials. Among his best known songs are *They Didn't Believe Me*, *Look for the Silver Lining*; *Ol' Man River*; *She Didn't Say Yes*; *Why Do I Love You?*; *Smoke Gets in Your Eyes*; *The Song Is You*; *The Way You Look Tonight*; and *The Last Time I Saw Paris*. He was less successful in his two attempts at symphonic composition: *Show Boat, A Scenario for Orchestra* (1941) and *Mark Twain, A Portrait for Orchestra* (1942).

KERN LAKE, a body of water in Kern County, in the southern part of California; one of a small group of basins in the midst of an almost arid part of the state.

KERN RIVER, a stream of San Joaquin Valley, California, rising in the Sierra Nevadas and flowing southwest. It has great value in irrigation about Bakersfield, near which are located the Kern River oil fields.

KERN RIVER SHOSHONEANS, a small body of Indians of the Shoshonean family in southern California, isolated from the parent stock. It is so linguistically different from the other members of this very extensive family of languages that it has been classed as a major division of the Shoshonean tongue.

KERNAHAN, Coulson, English novelist: b. Ilfracombe, Devonshire, Aug. 1, 1858. He was for many years literary adviser to Ward, Lock and Company, London. He has contributed criticisms, verses, essays, and stories to numerous periodicals. Among his published works are *A Dead Man's Diary*; *A Book of Strange Sins*; and *Sorrow and Song*.

KERNER, kĕr'nĕr, Justinus, German poet: b. Ludwigsburg, Württemberg, Sept. 18, 1786; d. Weinsburg, Feb. 21, 1862. He belonged to the Schwabian school. He was at times fanciful, sensitive and poetic and endowed with a strange, fantastic humor. He graduated in medicine and practiced in several towns of Germany. Among his popular works are *Reisehatten* (1811), and *Die Seherin von Provost* (1829).

KERNSTOWN, Battle of. Gen. Stonewall Jackson abandoned Winchester, Va., March 11, 1862 and retreated up the Shenandoah Valley, followed by Shields' Union division

beyond Strasburg. Shields was recalled to Winchester on the 20th, and Jackson followed him, his advance cavalry under Turner Ashby engaging Shields on the afternoon of the 22d, near Kernstown, in which Shields received a severe shell-wound. Jackson came up on the afternoon of the 23d and, being informed that Williams' division of Banks' corps had left Winchester and was moving through the Blue Ridge for Manassas Junction, and that Shields had but four regiments in his front, determined to crush these and thus recall Williams and detain him in the valley. Shields had nearly 8,000 infantry and cavalry and 23 guns, two of his brigades on a ridge covering the road half a mile north of Kernstown, both under command of Col. N. Kimball. Jackson had about 3,000 infantry and 27 guns. Kimball was too well posted to be attacked in front, so leaving Ashby with the cavalry and a small brigade of infantry to hold the road and threaten Kimball's center and left, Jackson seized a low ridge on Kimball's right, and placed on it his artillery and infantry. Tyler's brigade, which had been held in reserve, was brought up and made unsuccessful efforts to dislodge him, upon which Kimball, drawing from his left and center, formed a column of seven regiments and, under a terrific fire of artillery and musketry, led it forward, came up on Tyler's left and after a fierce combat broke Jackson's line. Kimball pressed his advantage, and as night closed in, Jackson was in full retreat, leaving his dead and wounded and two guns on the field of his first defeat. He said that he considered the engagement "a fiercer fight during its continuance than any portion of the battle of Manassas." The Union loss was 118 killed, 450 wounded, and 22 missing; the Confederate loss, 80 killed, 375 wounded and 263 missing. Consult *Official Records* (Vol. XII); Allan, *Jackson's Valley Campaign*; The Century Company's *Battles and Leaders of the Civil War* (Vol. II).

KERNSTOWN (Winchester), **Second Battle of.** On July 22, 1864 General Crook, with four small divisions of infantry and cavalry, joined General Averell's cavalry division at Winchester, Va., Crook assuming chief command of the united force of 11,000 men. On the 23d Crook advanced four miles south to Kernstown and skirmished with Confederate cavalry, and on the 24th went into position on the same ground held by the Union troops in the battle of March 23, 1862. The infantry divisions of Colonels Thoburn, Duval and Mulligan covered the valley pike, with the cavalry of Duffié and Averell on either flank. Upon the approach of the enemy Averell was sent down the Front Royal road to turn his right. General Early, who, after his raid on Washington, had recrossed the Potomac and taken position beyond Cedar Creek on the 21st, hearing of Crook's advance, put all his army in motion on the morning of the 24th to attack him. At Bartonsville Ramseur's division moved by a road to get around Crook's right, while the divisions of Gordon, Rodes, Breckinridge and Wharton moved along the valley pike and on either side of it. The cavalry was divided and moved in two columns, one on the right along the Front Royal and Winchester road, the other on the left and west of Winchester, the two to unite in rear of Winchester and cut off

Crook's retreat. At 10 A.M. Crook's skirmishes were driven in, and it was discovered that he left extended through Kernstown, and that Averell having left, that flank was exposed whereupon Wharton's division was moved under cover of some ravines on the right to attack it. The movement was promptly executed, and Wharton struck the left flank and rear of Crook's Rutherford B. Hayes' command as it was advancing and threw its left into some confusion. Hayes changed front and, forming behind a stone fence, held Wharton in temporary check. Almost simultaneously with Wharton's flank attack, Rodes, Gordon and Ramseur advanced on Crook's center and right, and the entire line gave way and retreated through Winchester followed by Early's infantry and artillery beyond Winchester, and by Rodes' division as late as Stephenson's Depot. The retreat was continued on the 25th through Martinsburg to the Potomac, Crook crossing at Williamsport and marching down the north side of the river to Maryland Heights and Harper's Ferry. Early occupied Martinsburg and began the destruction of the Baltimore and Ohio Railroad. The Union loss, July 23-26, was 100 killed, 606 wounded and 479 missing. Among the mortally wounded was Colonel Mulligan, commanding division. The Confederate loss is not accurately known but it was comparatively light. Consult *Official Records* (vol. 37) and Pond, *The Shenandoah Valley in 1864*.

KEROSINE, an illuminating oil; once the chief product of the distillation of petroleum but forming now only a small fraction of the total refined crude. The oil is colorless, possessing a characteristic taste and smell, insoluble in water, moderately soluble in alcohol, but very soluble in ether, chloroform and benzene. It dissolves camphor, iodine, phosphorus, sulphur, fats, wax and many resins. The flashing point of a safe kerosine should not be less than 34° and the igniting point 43°. The finest quality of illuminating oil is produced from distillate, ranging in specific gravity from 0.775 to 0.780. It has a high flashing point, 48° to 60° and contains none of the lighter parts of the crude oil. A good illuminating oil should neither be too viscous nor too volatile, and it should not take fire when a light is applied to it. See also OIL; PETROLEUM.

KERR, Alfred, anti-Nazi critic and publicist: b. Breslau, Dec. 25, 1867; d. Hamburg, Oct. 13, 1948. He was a contributor to the ultra-modernist publications (*Neue deutsche Rundschau*, and others). His works are *Hermann Sudermann* (1903); *Das neue Drama* (1904) *Schauspielkunst* (1904).

KERR, kër, Michael Crawford, American politician: b. Titusville, Pa., March 15, 1827; d. Rockbridge, Alum Springs, Va., Aug. 17, 1876. He was graduated from the law school of Louisville University in 1851. The next year he moved to New Albany, Ind., and began the practice of his profession; in 1854 he was city attorney, and in 1855 prosecuting attorney for the county. In 1856 he was elected to the State legislature; in 1862 he was reporter for the Supreme Court of Indiana, and published five volumes of reports of unusual value. In 1864 he was elected to Congress as a whig.

nocrat, and served till 1872. In that year refused the nomination from his own district, but ran as congressman-at-large, and was elected by a very small majority; in 1874 he was re-elected to Congress in spite of much opposition, and was made speaker on the organization of the House. He served, however, only during the first session of that Congress (the 44th), as he died four days after its adjournment. While a member of the House he served on several important committees, including the committee on ways and means; he opposed the reconstruction policy of the Republican Party and was an advocate of free trade. He was also a close student of financial problems, favored the resumption of specie payment, and was strongly against the Greenback movement in regard to which he opposed a large part of his constituency and many of the politicians of his state.

KERR, Orpheus C. See NEWELL, ROBERT HENRY.

KERR, Sophie, American writer: b. Denton, d. Aug. 23, 1880. In 1904 she married John Underwood, and was divorced from him four years later. She was educated at Hood College, Frederick City, Md., and the University of Vermont, and at the age of 18 began to write stories. Her journalistic work for two Pittsburgh newspapers, she became managing editor of the *Woman's Home Companion*. Besides contributing stories to many leading periodicals, she published numerous books, including *Love at Large* (1916); *Painted Meadows* (1920); *Confetti* (1927); *Tigers Is Only Cats* (1929); *Stay Out of My Life* (1933); *Five to Look At* (1937); *Woman Going Up* (1940); *Jenny Declin* (1943); *Is Tall as Pride* (1949). She also wrote the play *Bio-Hearted Herbert*.

KERRIL, kër'îl, a sea snake (*Distira cyanonota*), olive with blue-black bands, numerous along the coasts from Persia to Japan, and considered to be one of the most venomous of its race.

KERRVILLE, kûr'vil, city, Texas, county seat, Kerr County; altitude 1,645 feet; on the Guadalupe River; and on the Southern Pacific Railroad, 55 miles northwest of San Antonio; has a municipal airport. Situated in a ranching region; stock raising and cotton growing are the chief occupations. Kerrville is an important market for wool and mohair. Schreiner Institute, a minor college, is here. West of town is Schreiner Game Preserve for buffalo and antelope. The Kerrville State Sanitarium is for tubercular cases. Kerrville has commission government, with a city manager. Pop. (1950) 7,691.

KERRY, kër'î, a county in the province of Munster, Ireland, lying between the Atlantic Ocean on the west and the mouth of the Shannon on the north. It is noted for its beautiful mountain scenery and the far-famed Lakes of Killarney. The county is, for the most part, rugged and inclined to be wild; and the mountains there rise to the highest elevation attained in Ireland, in the peak of Carrantual, 3,414 feet. The chief products of Kerry are cattle, butter, oats, and fish. The county town is Tralee; and the other market towns are Killarney, Listowel, Cahersivreen and Dingle. Area, 1,815 square miles. Pop. (1946) 133,893.

KERSAINT, kër'sân', COMTE DE (ARMAND GUI SIMON DE COETNEMPREN), kwêt-nêm-prên', French naval officer: b. Paris, July 29, 1742; executed there, Dec. 4, 1793. Following the family traditions he early entered the navy (1755) and was rapidly promoted. Though of noble birth he sided with the Girondists, and became one of the noted figures of the Revolution. Made vice admiral in 1793 he attempted to effect far-reaching reforms in the navy, which were balked by the excesses of the Revolution culminating in the mock trial and execution of Louis XVI. Against these acts Kersaint protested vigorously, with the only result that he himself suffered the same fate as his late sovereign.

KERSEY, kër'ze, a village in Suffolk, England, noted for its trade in woolen goods in the 13th century. The name "kersey" is also given to a light woolen cloth, which is looked upon as characteristic of the town. This cloth is most carefully finished; and this results in giving it a smooth surface and soft touch. Pop. (1951) 360.

KERTBENY, kirt'bâ-ně, Karl Maria, Hungarian writer: b. Pest, 1842; d. 1882. Many of his works are laborious and almost purely bibliographical and hence useful, but not of a distinctly literary character. He also translated into German the works of several Hungarian poets. His original work is found in his essays and literary criticism.

KERTCH. See KERCH.

KERVYN DE LETTENHOVE, kër'vin dě lêt'ën hō'vê, BARON Joseph Marie Constantin Bruno, Belgian historian: b. Saint Michel, Flanders, 1817; d. 1891. He was minister of public instruction 1870-1871, a careful, intelligent and laborious antiquarian and an authority, in his field, on matters relating to his native country. Among his published works are *Histoire de la Flandre* (1847-1850); *Jacques d'Artevelde* (1863); *Histoire et chroniques de Flandres* (1879-1880); *Relations politiques des Pays-Bas et de l'Angleterre* (1882-1887); *Les Huquenots et les gueux* (1883-1886); *Marie Stuart* (1889); and numerous translations and edited volumes.

KESHUB CHUNDER SEN, or **KESHAB CHUNDER SEN**, kâ'shōb chôn'drō sân, Indian religious reformer: b. Calcutta, 1838; d. Jan. 8, 1884. He was educated in Calcutta, and was employed there for a period as a clerk in the Bank of Bengal. In 1857 he joined the Brahma Samaj, a movement which sought to purify and reform Hinduism. He founded the *Indian Mirror*, a weekly, in 1861, and in 1863 published *The Brahma Samaj Indicated*. When dissension divided the movement, he headed in 1866 a section known as the "Brahma Samaj of India." In 1870 he visited England, there meeting with a friendly reception from the Unitarians, with whom he had much in common; he had little sympathy, however, with orthodox Christianity. Although he did much to reform the marriage laws of his country, he gave his child daughter in marriage to the rajah of Cooch Behar. Turning toward mysticism in his later life, he lost many of his followers, some of whom established in 1878 the dissenting Sadharana Brahma Samaj. His last book was *The New Samhita or the Sacred Laws of the Aryans of the New Dispensation*.

KESSEL, van, the family name of a number of notable Flemish painters, the first of whom was Jeroom van Kessel (q.v.). They covered a period from the beginning of the 17th century to the middle of the 18th, and collectively entered almost every department of painting. For leading members of this family, see the biographies given under the family name, which follow.

KESSEL, Jan van, THE ELDER, Flemish painter: b. Antwerp, 1626; d. 1679. He was a son of Jeroom van Kessel (q.v.) and a pupil of his father, his grandfather, Simon de Vos, and Jan Breughel. He also studied in Madrid, where he was highly esteemed as a painter of landscapes, flowers, fruits, and animals. He displayed much of the talent of his father and his grandfather, qualities which he transmitted to his son Jan the Younger (q.v.). Much of his work still exists. The Madrid Museum acquired *A Garland* (in one of his and Van Thuden's pictures) and some 40 other pictures. Among his other works were *Concert of Birds* (Antwerp Museum); *Fight between a Bear and a Snake*; *Birds Set in a Landscape*; *Boar-hunt*; *Fable of Stork and Fox* (Vienna Museum). But these were only a few of his many pictures which were to be found in many art galleries, among them those of Paris, Florence, The Hague, Stockholm, Nuremberg, Stuttgart, Berlin and Austria.

KESSEL, Jan van, THE LATER, a noted Flemish painter, supposed to belong to the famous van Kessel family of painters: b. Amsterdam, about 1641; d. 1680. He seems to have been a pupil of Jacob Ruysdael and Hobbema; at any rate he followed their style of painting. He was looked upon as one of the best landscape painters of his day. Of his surviving works, many were in the galleries of the Lowlands and Germany, among them Munich, Darmstadt, Amsterdam, Antwerp, and Rotterdam.

KESSEL, Jan van, THE YOUNGER, a son and pupil of Jan van Kessel, the Elder, whom he accompanied to Spain: b. 1654; d. 1708. In Spain father and son seem to have worked together. Jan the Younger, however, seems to have prospered better than the Elder. In six years after his arrival in Madrid he had become court painter to Charles II. He was very popular as a portrait painter and he had the patronage of the court nobility. Owing to the fact that most of his attention was given to portrait painting, there are not so many survivals of his work as there are of his father's (Jan, the Elder), or of his grandfather's (Jeroom Van Kessel); and as most of his active life was spent in Madrid nearly all of his work remained in Spain. Among his notable works were a portrait of Philip IV (Madrid Museum); *Psyche Surrounded by Wild Animals*, *Psyche and Cupid* (Alcazar, Madrid).

KESSEL, Jeroom, a noted Flemish painter and the founder of the famous van Kessel family of painters: b. Antwerp, 1578; d. about 1636. He was the most distinguished pupil of Cornelis Floris; and was the son-in-law of Jan Breughel, the famous landscape painter. Kessel did much work in collaboration with his father-in-law into whose landscapes he is said to have infused more animation by introducing animals and other figures. He traveled about Germany and the Low Countries painting portraits in various large cities, such as Frank-

fort, Cologne, and Strassburg. He also gained a reputation as a painter of still life and animals. His chief wanderings seem to have begun when he was about 28 and to have lasted some 12 years. After this, he probably made his home in Antwerp.

KESSELRING, kës'el-rîng, Albert, German military officer: b. 1887. The son of a government inspector of schools, he served during the First World War in the air force, where he became a close friend of Hermann Wilhelm Goering (q.v.). With the advent to power of Adolf Hitler (q.v.), and through the influence of Goering, he gained rapid promotion in the army, by 1936 becoming, under the latter, chief of the general staff of the air force. Early in 1939 he was given command of Air Fleet I, and when Poland was invaded in September he directed their operations between Danzig and Brest Litovsk. Transferred to Air Fleet II, he supported the invasions of the Lowlands and France during May-June 1940, for these services being promoted general field marshal by Hitler in July. He commanded the German air force during the Battle of Britain, August-October 1940, and, when the Soviet Union was invaded by German armies in June 1941, he commanded an air unit on the Russian front. In February 1942 he was transferred to Italy to take chief command of the German air forces in that theater of war, allegedly because of his lack of success in Russia. His aircraft in Italy were unable to force the capitulation of Malta or to assist Field Marshal Erwin Rommel (q.v.) hard-pressed in North Africa, but nevertheless in September 1943, he was given command of land and air forces on the central part of the Italian front opposing the advancing Allies. Early in 1944 he was appointed commander in chief of all German troops in Italy, in this post succeeding in putting up a stubborn defense against every Allied attempt to advance. Despite his successful record, he was withdrawn in March 1945 to take a command on Germany's western front, where the situation was, by the time, critical. At first, supreme commander of all German troops in the west, in succession to Field Marshal Gen. Karl von Rundstedt (q.v.), a month later the over-all command was divided, Field Marshal Gen. Ernst Busch taking over the forces north of Leipzig, and Kesselring directing the armies south of that area. In May 1945, following the collapse of all German resistance, he was captured by the United States Seventh Army. Wearing one of the Reich's highest decorations, the Knight's Cross of the Iron Cross with oak leaves, swords, and diamonds, he assured interviewers that Hitler had been a military genius, although "sometimes the ideas of a genius are misunderstood"; of Field Marshal Sir Bernard Law Montgomery (q.v.) his adversary for so long on two fronts, he commented, "I believe if I call him 'Monty' that is sufficient."

KESTER, Paul, American dramatist: b. Delaware, Ohio, Nov. 2, 1870; d. Lake Mohogean, N.Y., June 20, 1933. He was a brother of Vaughan Kester (q.v.). His greatest success was in the dramatic field. Among his published works were *His Own Country*; *Tales of the Real Gypsy*; and the following plays: *The Countess Roudine* (with Minnie Madden Fiske); *Zamar*; *What Dreams May Come*. T

'Cousin of the Ring' (with Vaughan Kester); 'Eugene Aram'; 'Sweet Nell of Old Drury'; 'When Knighthood was in Flower'; 'Made-moiselle Mars'; 'The Cavalier' (with George Middleton); 'Friend Hannah'; 'Don Quixote'; 'The Bill Toppers'; 'The Lady in the Case'; 'Beverly's Balance'; 'The Tragedy of Edith Cavell'; 'The Great Lady Dedlock'

KESTER, Vaughan, American novelist: b. New Brunswick, N. J., 1869; d. 1911. He devoted his life to literary work. Much of his best work was contributed to the *Cosmopolitan Magazine* on whose staff he was for some considerable time. Among his more serious published works are 'The Prodigal Judge'; 'The Manager of the B. and A.'; 'The Fortunes of the Landrays'; 'John o' Jamestown'; 'The Just and the Unjust'; 'The Hand of the Mighty.' In the latter, which was published after his death, is a biographical sketch of the author by his brother, Paul Kester.

KESTREL, one of the smaller of the European falcons (*Tinnunculus alaudarius*), resembling the sparrow-hawk, and formerly much used in falconry by the peasantry. The American sparrow-hawk and sharpshin (qq.v.) may be called kestrels.

KESWICK MOVEMENT, The. In 1874 Canon Harford-Battersby attended a conference at Oxford and there passed through a deep spiritual experience. On his return to his parish, Saint John's, Keswick, he was very desirous that his people should have the same experience. So the first Keswick Convention was called by the vicar and his helper, Mr Robert Wilson, in the year 1875. Its title was "Convention for the Promotion of Practical Holiness." Its purpose was "to help men to be holy." The following directions were given to those coming to the convention:

- 1 Come waiting on the Lord, desiring and expecting blessing to your own soul individually.
- 2 Be ready to learn whatever God may teach you by His word, however opposed to human prejudices and traditions.
- 3 Heartily renounce all known evil and even doubtful things ("not of faith").
- 4 Lay aside for the time all reading except the Bible.
- 5 Avoid conversation which has a tendency to divert our mind from the object of the meetings. Do not dispute with any, but rather pray with those who differ from you.
- 6 Eat moderately, dress simply, retire to rest early.

The convention became an annual affair attended by hundreds of people. The meetings were held in two tents each having a capacity of 2,250. Many subjects were discussed such as 'The Renunciation of Evil,' 'Holiness by Faith,' 'Heart Obedience,' etc. Canon Battersby died in 1883, but the work has been continued. The movement has been productive of considerable devotional literature by such writers as F. B. Meyer, W. H. A. Hay Aitkin, Bishop H. C. G. Moule, Andrew Murray, Hubert Brook, J. Stuart Holden, Arthur T. Pier-son and G. H. C. Macgregor.

At the Keswick Convention of 1891, those present from Scotland decided to hold a like meeting in their own land. As a result, for many years, beginning with 1892, an annual meeting has been held at Bridge-of-Allan. It was called "The Scottish National Christian Convention for the Deepening of Spiritual life." The movement is world-wide and of great influence in Christian circles. Consult

Harford, Charles F., 'The Keswick Convention: Its Message, Its Methods and Its Men' (1907), also Macfarlane, 'Scotland's Keswick; Sketches and Reminiscences' (1917).

KETCH, a vessel equipped with two masts, namely, the mainmast and the mizzenmast, and usually from 100 to 250 tons burden. Ketches were principally used in former times as yachts for conveying princes of the blood, ambassadors or other great personages from one place to another. Ketches in use at the present day are chiefly coasters.

KETCHAM, William Henry, American missionary: b. Sumner, Iowa, 1 June 1868. He was educated at Saint Charles College, Grand Coteau, La., and the Seminary of Mount Saint Mary's of the West, Cincinnati, Ohio. In 1885 he became a Roman Catholic, and was ordained a priest in 1892. Until 1897 he was missionary to Creek and Cherokee Indians and other tribes in and about Muskogee, I. T. From 1897 to 1900 he was missionary to the Choctaws at Antlers, I. T., and in the latter year was appointed assistant in the Catholic Bureau of Indian Missions, Washington, of which he was made director in 1901. From 1913 he served as United States Indian Commissioner. During his sojourn in the Indian Territory, he founded many schools and churches and converted many Indians to the Christian faith. He helped heal the breach between the government authorities and the Catholic Indian Bureau, and secured the abolition of the rule forbidding Catholic Indian children in government schools from attending Catholic religious services. He founded the *Indian Sentinel* and in 1908 was delegate to the First American Missionary Congress at Chicago. In the same year and again in 1910 he attended the Lake Mohonk conferences. Died 14 Nov. 1921.

KETONES, kē'tōnz. See ACETONE.

KETTELER, kē'tēl-ēr, Clemens August, BARON VON, German diplomat. b. Potsdam, 1853; d. Peking, 20 June 1900. He served for a time in the army, but entered the diplomatic service, in 1882 as attaché at Peking drew up the first treaty between Germany and Korea, in 1883 was appointed acting consul at Canton, in 1892 became secretary of the German legation at Washington, and when in 1893 the legation was made an embassy was appointed first secretary to the embassy and councillor of state. In 1896 he became Minister to Mexico, in 1899 Minister to China. In 1900, at the time of the "Boxer" disturbance in northern China, he was selected, owing to his familiarity with the Chinese language, to represent the foreign diplomats in their communications with the government. While on such a mission he was shot in the street. Prince Chun, brother of the emperor, was sent to Germany to apologize for the murder, and 18 Jan. 1903 a memorial arch, set up at the expense of the Chinese government, was dedicated at Peking.

KETTELER, Wilhelm Emanuel, BARON VON, German ecclesiastical leader. b. Münster, Prussia, 1811; d. 1877. Graduating in law after studies at Göttingen, Berlin, Munich and Heidelberg, he entered the civil service at Münster. This he soon left to study for the priesthood in the Catholic Church. Ordained in 1844, he became, through his talents and

his family connections, bishop of Mainz in 1850. He at once became the champion of the Catholic Church whose power and freedom from state control in Germany he labored to build up. He was, therefore, constantly in opposition to the policies of the chancellor and the royal family, a position he maintained to his death. Among his published works are *Freiheit, Autorität und Kirche* (1862); *Die wahren Grundlagen des religiösen Friedens* (1867); *Das allgemeine Konzil* (1874); *Die Katoliken im Deutschen Reiche* (1873). His works are still read in Catholic circles in Germany, where von Ketteler is looked upon as the greatest of modern German champions of the church.

KETTERING, Charles Franklin, American engineering executive and inventor: b. near Loudonville, Ohio, Aug. 29, 1876. Following education in district schools and graduation as an engineer from Ohio State University in 1904, he joined the National Cash Register Company at Dayton, Ohio. He rose rapidly to chief of the inventions department, resigning in 1909 after having designed a small universal motor for the first electrically operated cash register, and other register appliances. Subsequently he became vice president of the Dayton Engineering Laboratories Company (Delco), which in 1916 was absorbed by the United Motors Corporation (now General Motors). In 1917 he became president and general manager of the General Motors Research Corporation, later becoming vice president of the parent corporation and director of its Research Laboratories Division until his resignation in June 1947.

Recognized as one of the world's leading automotive engineers and inventors, Mr. Kettering's outstanding contribution was the self-starter (1911), which ended the hand-crank era in motoring, permitted the building of more powerful engines, and sped the advent of mass ownership of cars. During his career, he also invented or shared in the invention of Delco lighting (1916); ethyl antiknock gasoline (1922), for which his assistant, Tom Midgely, received credit as the inventor; Duco paint; crankcase ventilation (1925); the electric Frigidaire; a pioneering modern Diesel engine (1933-1934), which made possible the application of Diesel power to railway traction; and the hypotherm, which treats a variety of pathological conditions by artificially induced heat.

In 1947 he added to his accomplishments the revolutionary design of a superhigh compression engine which is considered practicable for near-future automotive manufacture, and which is expected to result in significant fuel economy. He has also financed and advised an intensive study of photosynthesis at Antioch College (Yellow Springs, Ohio), and helped establish (1945) and administer the Sloan-Kettering Institute for Cancer Research.

KETTLE CREEK, Battle of (Feb. 14, 1779), an engagement of the Revolution fought near Washington, Wilkes County, Ga., about 50 miles northwest of Augusta, which resulted in a complete check to the British invasion of Georgia. The hastily assembled Colonials were under command of Col. Andrew Pickens, Col. Elijah Clarke and Col. John Dooly. The fleeing enemy threw their kettles and camp utensils into the creek, hence the name.

KETTLE HOLE, a pit or depression in glacial outwash or morainic plain. These kettles are often occupied by small lakes. They may be merely depressions due to unequal deposition, but are more often caused by the melting of buried blocks of ice.

KETT'S REBELLION, an uprising in England under the leadership of the Kett brothers, in 1549. William and Robert Kett, landowners of Wymondham, Norfolk, were men of considerable influence in their own neighborhood. The people of the district rose in arms against the enclosure of common land and the eviction of tenants therefrom. Robert Kett, lord of the manor of Wymondham, was induced to join them as their leader; and with him went his three brothers. He soon had at his command 16,000 men under excellent discipline. This force proceeded to petition the Privy Council in London stating respectfully but fully their grievance. The answer of the government was to send against the insurgents a strong force under the Earl of Warwick. In the meantime Kett had captured Norfolk (Aug. 1, 1549). But he was finally defeated at Dussindale, in a bloody battle in which both sides suffered heavily. The government forces won the day with the help of German troops provided with firearms which gave them a great superiority over the peasantry provided only with longbows and crossbows. In the battle 3,500 of the insurgents perished and many more met death on the scaffold, among them the two Kett brothers.

(Consult Russell F. W., *Kett's Rebellion*, London, 1850).

KEUKA, kū'kā, or CROOKED LAKE, a body of water in New York state extending from Steuben County to Yates County, a distance of 18 miles. It is about 1½ miles wide and of irregular form. It has a depth of 200 feet and lies 718 feet above the sea. Steamboats navigate the lake in summer between Hammondsport and Penn Yan. The waters flow eastward to Seneca Lake. Keuka Lake is one of the Finger Lakes.

KEUPER, koi'pēr, a red sandy clay, in its primary signification, and in its secondary, the topmost division of the Triassic system in Europe. In both Germany and England the chief rocks in the Keuper are marl, sandstone and gypsum.

KEW, kū, a village, England, located in the county of Surrey, six miles from Hyde Park Corner, on the right bank of the Thames, opposite Brentford, with which it is connected by a bridge. The Royal Botanic Gardens and the connected pleasure grounds, the former covering about 75 acres, the latter 250, are the chief attraction of visitors to Kew. They contain the finest collection of plants in the world, and are decorated with various ornamental buildings, including a Chinese pagoda 163 feet high. Kew Palace is close by the northern entrance. Thomas Gainsborough, the celebrated artist, is buried in Kew churchyard.

KEW OBSERVATORY, a celebrated astronomical structure in Richmond Park, between Kew and Richmond, Surrey, England. It was built by George III as a private enterprise for the observation of the transit of Venus in 1768 and was then called the King's Observatory. It

was transferred to the British Association as a physical observatory in 1841, and given its present name. In 1871 it was placed under the control of the Royal Society.

KEWANEE, kè-wōn'è, city, Illinois, in Henry County; altitude 853 feet; on the Chicago, Burlington and Quincy Railroad, 131 miles southwest of Chicago. Distinctly an industrial city, it has manufactures of work-gloves and mittens, tools, and valves and fittings. Kewanee is well equipped with parks, playgrounds and recreational centers, the acreage devoted to parks exceeding 300. In 1836 settlers from New England founded, in what is now the southern section of Kewanee, a community called Wethersfield. In this year John Kilverton built the first log cabin, which now stands on the high school grounds. Kewanee, a new settlement founded in 1854, was incorporated as a city in 1897. In 1924 it absorbed the older settlement; the name Wethersfield, however, is still retained in local use as a neighborhood name. The city has commission government. Pop. (1940) 16,901; (1950) 16,770.

KEWAUNEE, kè-wō'nè, city, Wisconsin, Kewaunee County seat; altitude 586 feet; on Lake Michigan, at the mouth of the Kewaunee River; 120 miles north of Milwaukee; on the Kewaunee, Green Bay and Western Railroad; connected by car ferry with the Ann Arbor, and Pere Marquette railroads; has municipal airport. Its industrial products are aluminum ware, machinery, and office, school, and church furniture. A fur trading post was established here in 1795. A rumored gold discovery brought many settlers in 1836. Kewaunee has mayor and council. Pop. (1940) 2,533; (1950) 2,576.

KEWEENAW, kè-wé-nò, **BAY**, an arm of Lake Superior, north of Michigan. It is eight miles long, by two to six miles in width. The tip of Baraga lies at the head of the bay.

KEWEENAWAN, kè-wé-nò'an, **SERIES**, a great series of rocks, believed to be of pre-Cambrian age, typically developed on Keweenaw Point, Mich., but found over a large area in Michigan, Wisconsin and Minnesota. Rocks of the same age occur also in Canada, and possibly in the Adirondack Mountains in New York. They constitute the upper series of the Algonkian system. The series on Keweenaw Point and southward has a maximum thickness of perhaps 4,000 feet; the lower part consists mostly of thick sheets of lava and intrusive rocks with some sandstone and conglomerate; the upper part is a mass of sedimentary rocks. In the series occur the famous Lake Superior copper deposits.

KEY, SIR Astley Cooper, British admiral: b. London, 1821; d. 1888. After varied service in the British Navy, in South American waters, the Baltic and China, he became director of naval ordnance in 1866, and 12 years later president of the Royal Naval College at Greenwich, which he had organized. The following year he was knighted and raised to the rank of vice admiral and to full admiral in 1878 after having been commander in chief on the North American and West Indian stations. He had been steadily working to increase the efficiency of the British Navy which owes very much to his well-directed and sustained efforts. In 1882 in recognition of his services he was made senior naval lord of the Admiralty.

KEY, David McKendree, American jurist and Cabinet officer: b. Greene County, Tenn., Jan. 27, 1824; d. Chattanooga, Tenn., Feb. 3, 1900. After studying law he was admitted to the bar in 1849, and in 1853 took up his residence in Tennessee, establishing a successful law practice at Chattanooga. After vainly attempting to prevent the secession of Tennessee, when once that step was taken he joined the Confederate Army and served through the war, but at its close joined the Republican Party, succeeded Andrew Johnson in the United States Senate (1875); in 1877 was made postmaster general; and in 1880 was appointed United States district judge for the eastern and middle districts of Tennessee, a position he held till 1894.

KEY, kē'i, Ellen Karoline Sofia, Swedish social writer: b. Sundsholm, Dec. 11, 1849; d. Lake Vettern, April 24, 1926. She descended from a line of semi-noble ancestors. At the age of 20 she became secretary to her father, Emil Key, who was then a prominent member of the Riksdag. About this time she became noted as a contributor to the magazines and periodicals of her native country, dealing with literary, historical and later sociological subjects. She was forced to teach in a private school when her father lost his fortune but this did not prevent her lecturing and continuing her magazine and newspaper writing which was yearly increasing her reputation. The sale of her writings soon permitted her to give up teaching and to travel and lecture in foreign countries. She was a very advanced thinker and so she became a storm center between 1890 and 1910. Bitterly assailed by her opponents she was admired and supported and read by everyone, with the result that her books have been translated into most of the languages of Europe. Among her publications, are the following: *Ideas* (1898); *The Century of the Child* (1900); *Love and Ethics* (1911); *Rahel Vornhaagen* (1913); *The Renaissance of Motherhood* (1914); *The Younger Generation* (1914); *The Misuse of Woman's Power*; *Lines of Life* (1903-1906).

KEY, kē, Francis Scott, American lawyer and author of the national anthem, *The Star-Spangled Banner* (q.v.): b. Frederick Co., Md., Aug. 1, 1779; d. Baltimore, Jan. 11, 1843. Educated at St. John's College, Annapolis, he practiced law in Frederick City, then removed to Georgetown, D.C. After witnessing in a fever of anxiety from an American cartel ship the British fleet's bombardment of Fort M'Henry near Baltimore on the night of Sept. 13-14, 1814, he wrote the anthem as he was rowed ashore on the 14th, and made his final draft that night in a Baltimore inn. Sung to the tune of *To Anacraon in Heaven*, it achieved immediate popularity. Key served as United States attorney for the District of Columbia (1833-1841). The slim volume of his poems, published 1857, also contains the hymn, *Lord With Glowing Heart I'd Praise Thee*.

KEY, in heraldry, a heraldic bearing used in ecclesiastical connections. The idea of its use originally seems to be that the places bearing it were under the protection of Saint Peter, the

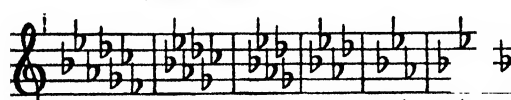
traditional bearer of the keys of heaven. This use of the symbol is based on a verse of the New Testament (Matthew 16:19; see also KEYS, POWER OF THE) and dates from the 5th century if not earlier. Papal arms frequently incorporate crossed keys, one of silver, one of gold, tied together by a cord. This symbol is found on the flag of Vatican City. Keys are also the symbol of St. Geneviève in art, but these are the keys of the city of Paris.

KEY, in music: (1) A mechanical contrivance for closing or opening vents, as in flutes or clarinets. By means of keys on such instruments, apertures too remote to be reached by the outstretched fingers are brought under control of the player.

(2) A lever which brings the pallets of an organ under the control of the hand or foot of an organist.

(3) A lever which controls the striking apparatus of a key-stringed instrument. In the harpsichord it acted on the jack; in the piano-forte it acts on the hammer. See also **KEYBOARD**.


--- FLAT KEYS ---



MAJOR C^b G^b D^b A^b E^b B^b F

MINOR a^b e^b b^b f c g d

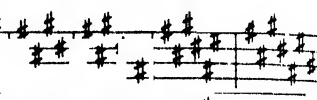
NATURAL



C G D A E B $F^\#$ $C^\#$

a e b $f^\#$ $c^\#$ $g^\#$ $d^\#$ $a^\#$

--- SHARP KEYS ---



Signatures and letter names of the keys.

(4) The starting point of the definite series of sounds which form the recognized scale. Different starting points require the relative proportion of the steps of the scale to be maintained by means of sharps or flats in the signature. The keys of C major and A minor require no flats or sharps for this purpose, hence are called natural keys. See also **MUSICAL ELEMENTS AND TERMS**.

KEY WEST, kē' wěst', city, Florida; seat of Monroe County; altitude 25 feet. The southernmost city in the United States, it is situated about 60 miles off the tip of Florida on Key West Island. The island, some 4 miles long and 2 miles wide, is at the southwestern end of the chain of coral islands called the Florida Keys. It is a port of entry and has passenger and freight air service to Miami and Havana. The principal industrial occupations are fishing, canning (turtle soup), and manufacture of cigars in limited quantity.

The city has a public library, an art gallery, and two private hospitals. The United States Navy and Civil Aeronautics Authority maintain radio plants. Among the points of interest are the naval station, an aquarium with exhibits of tropical fish, and the East and West Martello Towers—ruins of twin circular army forts of early Civil War days. The fish markets and turtle crawls also are of great interest.

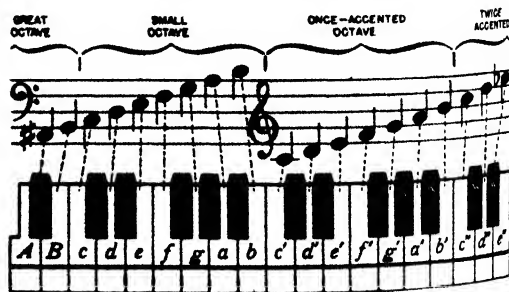
In 1912 the Florida East Coast Railroad extended its line to Key West, giving through passenger and freight service to New York. The extension of the line was a notable engineering feat, but service between Key West and the mainland was not particularly successful. After being badly damaged by the hurricane of 1935,

it was no longer used for rail transportation, and with Public Works Administration financing, was converted into the Overseas Highway, completed in 1938. Many of the bridges abandoned by the railway have been incorporated into the highway structure.

The name Key West is explained as a distortion of the Spanish Cayo Hueso, meaning Bone Island. The word *key* is a corruption of the Spanish *cayo*, island. In 1815 the Spanish governor, Juan de Estrada, gave Key West to an army officer, Juan Pablo Salas, who sold it in 1822 to John Simonton of Mobile. Simonton organized a company to exploit the island's resources. The city was incorporated Jan. 8, 1822. Government is by city manager and commissioners. Pop. (1940) 12,927; (1950) 26,433.

KEYBOARD, the name given to a set of keys through which the tones of certain musical instruments are produced. The principal instruments which are at present operated in this way are the piano and organ. It is in connection with the latter that keys and key-

boards were first used. Their employment can be traced back to pre-Christian times, but little is known concerning them until we come to the Middle Ages. The organ keys of this time were huge, unwieldy affairs, each key being from three to six inches wide and correspondingly long. They were not operated by the fingers, of course, but the entire fist or elbow was used in their manipulation, a circumstance which made it impossible to play more than one note at a time with each hand. The keyboards of the period were limited in range, and confined almost entirely to the so-called diatonic tones (represented at present by the white keys). Later the sharps and flats (black keys) were added, and the size of the keys was gradually reduced to the present dimensions.



Keyboard with corresponding staff notation.

The clavichord and harpsichord, precursors of the piano, were further keyboard instruments. Here, also, there was a development from primitive conditions, but essentially the nature of the keyboard, when once established, was similar to that of the modern piano.

The piano keyboard, which is shown in the illustration, consists of 88 members or keys, 52 being white and 36 black. As is apparent, the latter are arranged in alternate groups of two and three keys. Thus the keyboard is divided into recurrent sections, known as octaves. More specifically, an octave is the distance from one key to the next one that is similarly placed. For example, the distance from the middle one of the three black keys near the centre of the keyboard, to the same key either right or left, is an octave. C is the white key immediately to the left of the group of two black keys. B and A successively follow to the left of this, D, E, F and G to the right. After G a new octave commences with A. The black keys are named after the adjoining white keys, and are called sharps when derived from the white keys immediately to the left, and flats when derived from those immediately to the right. Thus the first of the group of three black keys, counting from the left, may be either F sharp or G flat, the next, G sharp or A flat.

The organ keyboard is similar to that of the piano, only the number of keys is smaller. This does not imply, however, that the range is smaller too, for it is possible to raise or lower the pitch of the keys by means of the mechanical devices known as stops. The organ, unlike the piano, generally makes use of several keyboards, which are called manuals. These are placed above each other, and their number may reach up to five. Besides, there is a distinct series of keys to be operated by the feet, which is known as the pedal board. By means of the various manuals it is possible to produce a variety of successive effects; likewise to combine these effects through the use of different manuals for the two hands, and the reinforcement of the same, if desirable, by the pedal board. Furthermore, it is possible to combine all the manuals and pedal board in a grand total effect.

Although improvements and changes have constantly been made in the tone and mechanism of keyboard instruments, so great in some cases as to result in the formation of new instruments, no change has been made for centuries in the arrangement of the keys. Under the circumstances it is natural that this matter should also receive the attention of innovators. Is it likely, we are asked, that an arrangement which grew up under conditions as primitive as those of the Middle Ages, and which was intended for the crude application of fist and elbow, should also be the ideal one for the delicate fingers, so different in strength and shape? This supposition being rejected, various changes have been suggested, some of a mild nature, some radical in their scope. For example, instead of the straight, side-by-side alignment of the keys, one which is slightly fan-shaped, and with an inward curve, has been suggested. But entire redispositions of the keys, too, have been proposed, the most notable recent attempt in this direction being that of Paul von Jankó, a Hungarian inventor. He has devised a keyboard with six parallel rows of keys, one row behind the other, and each successive row slightly elevated above its anterior neighbor. One advantage of this arrangement is to be found in the immense simplification of performance in the different keys which it allows. It is necessary to learn only two

scales — one major, one minor — instead of the present 24. Furthermore, an octave can be spanned with about the same ease as a sixth on our actual pianos.

The invention is ingenious, and the new keyboard made considerable headway for a time; but the prospects for its universal adoption are meagre. Whatever the disadvantages of the present keyboard, it has the advantage of actual possession of the field. The substitution of a new system would involve the discarding of present instruments, the relearning of the art by those who were educated in the old way, and the abandonment of valuable pedagogical works adapted to the piano and organ as they are. It would correspond, in the realm of music, to the introduction of radical changes in the system of weights and measures, or in the spelling of entire languages. So great are the difficulties involved, indeed, that it is doubtful whether the change will ever be made. The present keyboard, firmly imbedded in the musical life of the world as it is, seems destined to retain the supremacy which it has so long enjoyed.

ALBERT GEHRING,

Author of 'The Basis of Musical Pleasure,' etc.

KEYES, Charles Rollin, American geologist: b. Des Moines, Ia., 24 Dec. 1864. Educated at State University of Iowa and Johns Hopkins, he became assistant to the United States Geological Survey (1889-90); paleontologist to the State of Missouri (1890-92); assistant geologist for the State of Iowa (1892-94); director of the geological survey of the State of Missouri (1894-97). The following two years he spent in travel and geological studies in Europe, Asia and Africa. On his return he became president of the School of Mines of the State of New Mexico, a position he gave up in 1906 to continue his geological foreign studies. Since then he has been consulting mining engineer in Des Moines, Iowa. Among his published works are 'Geological Formations' (1892); 'Coal Deposits' (1893); 'Organization of Geological Surveys' (1894); 'Paleontology of Missouri' (1894); 'Surveys' (1894); 'Maryland Granites' (1895); 'Origin and Classification of Ore Deposits' (1907); 'Ozark Lead and Zinc Deposits' (1909); 'Bibliography of Geology' (1913); 'Orogenic Consequence of a Diminishing Rate of Earth's Rotation' (1922); 'Astronomical Theory of Glaciation' (1925).

KEYES, kēz, Edward Laurence, American surgeon: b. Charleston, S. C., 28 Aug. 1843; d. New York, N. Y., 24 Jan. 1924. He was graduated from Yale in 1863 and from the medical department of the University of New York in 1866. He practised his profession in New York from 1867, and from 1869 to 1871 was a member of the faculty of Bellevue Hospital Medical College. He published 'Tonic Treatment of Syphilis' (1877; rev. ed., 1896); 'The Venereal Diseases' (1880); 'Treatise on Surgical Diseases of the Genito-Urinary Organs' (1881; 2d rev. ed. by E. L. Keyes and E. L. Keyes, Jr., 1905), etc.

KEYES, Erasmus Darwin, American soldier: b. Brimfield, Mass., 1810; d. 1895. In 1832 he was graduated at the United States Military Academy, West Point, and in the same year was stationed in Charleston, S. C., subsequently he was for several years engaged in suppressing Indian outbreaks on the frontier and in

garrison duty. When the Civil War broke out, Keyes was made colonel of the 11th Infantry and deputed to New York to organize the relief expedition to Fort Pickens. In May 1861, he was made brigadier general of volunteers and two months later participated in the first battle of Bull Run. Subsequently Keyes commanded the Fourth Corps in the Peninsular Campaign during which he was constantly in active service.

KEYNES, kânz, John Maynard (1st BARON KEYNES OF TILTON), English economist and financial expert: b. Cambridge, England, June 5, 1883; d. Tilton, Fife, Sussex, England, April 26, 1946. He was educated at Eton and King's College, Cambridge; served as a minor official in the revenue department of the India Office (1906–1908); and returned to Cambridge in 1908 as a lecturer in economics, a position he held until his death. A member of the Royal Commission on Indian Finance and Currency (1913–1914), he joined the Treasury Department in 1915, and in 1919 went to the Paris Peace Conference as principal representative of the Treasury and as deputy for the chancellor of the exchequer on the Supreme Economic Council. Convinced of the economic impossibility of the reparations clauses of the Versailles Treaty, he resigned in protest from the Treasury in June 1919 and later that same year published his best-known work, *The Economic Consequences of the Peace*. During the 1930's he diagnosed the cause of the depression as a lack of mass purchasing power caused by severe deflation and recommended wide government spending to restore prosperity. Although this theory did not win much favor with the British government, it formed the basis for President Franklin D. Roosevelt's New Deal recovery program. A member of the Committee on Finance and Industry from 1929–1931, he was appointed to the Treasury Consultative Council in July 1940. The next year he was elected a director of the Bank of England, and in 1942 was named first baron of Tilton. During World War II he urged that the government take steps to avoid inflation by a plan of "deferred savings," and certain of his suggestions were adopted in the British wartime budget. He played a leading role in helping to crystallize the plans for a world bank and stabilization of international currency at the United Nations Monetary and Financial Conference at Bretton Woods, N.H., in July 1944. Shortly before his death, he had served as chief negotiator of the British loan, and in March 1946 as a member of the International Monetary Conference at Savannah, Ga., where he participated in the first meeting of the governors of the World Bank and Fund, of which he was elected a vice president. He was generally considered to be Great Britain's most brilliant and influential economist. His works include: *A Treatise on Probability* (1921); *A Revision of the Treaty* (1922); *A Tract on Monetary Reform* (1923); *A Short View of Russia* (1925); *The End of Laissez-Faire* (1926); *A Treatise on Money* (1930); *Essays in Persuasion* (1931); *Essays in Biography* (1933); *The General Theory of Employment, Interest, and Money* (1936); *How to Pay for the War* (1940).

KEYNES, John Neville, English economist: b. Salisbury, Aug. 31, 1852. He was educated at London and Cambridge universities and later served as a fellow at both schools. He was

the father of John Maynard Keynes (q.v.). Among his published works are *Studies and Exercises in Formal Logic* (1884, 4th ed. 1906, reprinted 1928) and *Scope and Method of Political Economy* (1891, 4th ed. 1917, reprinted 1930).

KEYPORT, New Jersey, borough in Monmouth County; altitude 30 feet; on Raritan Bay and on the Central Railroad of New Jersey, 15 miles south of Jersey City. Its industries include boat building, airplanes, and furniture. Keyport had white settlers as early as 1665; oysters were planted there in Chingarora Creek in 1714. It was incorporated as a borough in 1908, it has a mayor and council. Pop. (1950) 5,888.

KEYS, Power of the. A doctrine based on the saying of Jesus recorded in the gospel of Matthew xvi, 19: "And I will give unto thee the keys of the kingdom of heaven: and whatsoever thou shalt bind on earth, shall be bound in heaven: and whatsoever thou shalt loose on earth, shall be loosed in heaven." In the Roman Catholic Church there have been many variations of the doctrine. Some have held that only a priest of pure life could absolve from sin, while others have held that any priest could pronounce absolution as the representative of God. Some have held that the priest could release only from "transitory" punishment and that only God could release from "eternal punishment." Another difference has arisen; some declared that the priest is absolving as a judge, and others that he is acting as a mediator, while a third group declared that he combined both functions.

The Protestant view is based on a different interpretation of the passage. The power of the keys was given to Peter as a sign of apostolic authority to establish the Church by preaching the forgiveness of sin and the establishing of the doctrine of the gospel.

KEYSER, kî'sēr, Cassius Jackson, American mathematician: b. Rawson, Ohio, May 1, 1862; d., New York, N.Y., May 8, 1947. He received his B.S. from Ohio Normal University in 1883 and studied at the universities of Missouri, Michigan, and Columbia, obtaining his Ph.D. from the latter in 1901. He was Adrain professor of mathematics at Columbia from 1904 until his retirement in 1927. His publications include *Mathematical Philosophy*.

KEYSER, kî'zēr, Ephraim, American sculptor: b. Baltimore, Md., Oct. 6, 1850; there, Jan. 26, 1937. He first studied art in Baltimore and later at the royal academies of Munich and Berlin. He taught sculpture and modeling at the Maryland Institute of Art and is remembered for such work as his statue of Maj. Gen. Johann deKalb at Annapolis, Md., and the statue and tomb of President Chester Arthur at Rural Cemetery, Albany, N.Y. He made portrait busts of several famous men, including Cardinal Gibbons and Sidney Lanier.

KEYSER, Leander Sylvester, American clergyman: b. Tuscarawas County, Ohio, May 13, 1856; d. Springfield, Ohio, Oct. 18, 1937. He was educated at Ohio Northern and Indiana universities and graduated from the Hanna Divinity School of Wittenberg College, Springfield, Ohio, in 1883. He was a minister in several middle-western, Lutheran churches and in 1911 became

a professor of theology at Hanna. He was also a student of natural history and published several books on ornithology and theology.

KEYSER, kī'zēr, city, West Virginia, and seat of Mineral County; altitude 805 feet; on the north branch of the Potomac River; 22 miles southwest of Cumberland, Md., and 58 miles west of Martinsburg; on the Baltimore and Ohio and Western Maryland railroads. It is in a hilly but fertile agricultural region growing strawberries, apples, and garden truck. The city has railroad shops, knitting mills, pottery, and bottling works. It was a supply point and battle ground in the Civil War. The early settlement was called New Creek. It was renamed and incorporated in 1874, and became a city in 1913. The government is by a mayor and three councilmen elected by the people. Pop. (1940) 6,177; (1950) 6,347.

KEYSERLING, kī'sēr-ling, **COUNT Hermann Alexander**, German philosopher: b. Könno (Russian Livonia), now Estonia, July 20, 1880; d. Innsbruck, Austria, April 26, 1946. He studied zoology, chemistry, and geology at various schools including Dorpat (now Tartu), Heidelberg, and Vienna. Before World War I, he was recognized as a person of marked ability. After the war, deprived of his possessions in Russia (his family were German-speaking nobility of Baltic Russia) he established the Society for Free Philosophy at Darmstadt and became widely known as a lecturer. An outspoken opponent of the Nazis, he was deprived of his German citizenship in 1934, although it was later restored because of adverse world opinion. Finally in 1942, he took refuge at Innsbruck after the Nazis had declared him "unworthy to represent the German spirit."

His writings include many political and social articles but his best-known work is *The Travel Diary of a Philosopher* (1925).

Among his other books are *The World in the Making* (1927); *Creative Understanding* (1929); *South American Meditations on Hell and Heaven*; *The Soul of Man* (1932); *Problems of Personal Life* (1934); *Art of Life* (1937); *Immortality* (1937); *From Suffering to Fulfillment* (1938).

KHABAROVSK, kŭ-hā'rŭfsk, city, USSR, capital of Khabarovsk Territory, about 300 miles north of Vladivostok on the Trans-Siberian Railroad. It is situated at the junction of the Amur and Ussuri rivers, and is a place of commercial importance, which has grown steadily since its foundation as a military station in 1858. Pop. (1939) 199,364.

KHAIBAR PASS. See **KHYBER PASS**.

KHADIJA, kă-dē'jā, wife of Mohammed (556-619). Daughter of Khuwailid and twice widowed, she was wealthy, about 40 years old and 15 years his senior when she married the prophet. She bore him three sons and four daughters. See **MOHAMMED**.

KHAFRE, Egyptian king of the IV dynasty. The Chephren (Χεφρην) of Herodotus, he built the second pyramid of Gizeh; the tomb chamber contains a granite sarcophagus. In the monumental approach to the pyramid, a granite and alabaster edifice misnamed the temple of the

Sphinx, A. E. Mariette (q.v.) found in 1853 a magnificent green diorite statue of the monarch, and debris of eight other statues. A brother and successor of Cheops, who built the first and largest of the pyramids, Khafre ruled for 56 years. The Egyptians so hated the memory of these tyrannical brothers that they called the pyramids not by their names but by that of a shepherd, Philiton, who tended his flocks nearby. See also **EGYPT—History**.

KHAKI, kāk'ī, a light-brown drab fabric used for military uniforms. It was introduced by Sir H. B. Lumsden for making uniforms for British East Indian regiments. In the South African War of 1899-1902 the British troops wore khaki uniforms for purposes of protective coloration. Khaki was also worn by the United States troops in the Spanish-American War, World War I and World War II. The name is derived from the Persian *khak*, meaning earth, dust; hence earth-colored, to render the wearer inconspicuous.

KHALIFA, kă-lē'fā, **The**, an Arab title meaning successor, adopted as his by **ABDULLAH ET TAAISHA**, the successor of the Mahdi (Mohammed Ahmed). Born in Darfur, he was one of the Bagara Arabs engaged in the slave trade who resisted the Egyptian annexation of his native province. On his way to Mecca, he came into contact with Mohammed Ahmed, the native of Dongola who was then plotting a general insurrection. Chiefly because of Abdullah's influence, the wild tribes of the southern Sudan acknowledged Mohammed Ahmed as a prophet, and Abdullah became the Mahdi's confidential adviser, and on Mohammed Ahmed's death, June 1885, he succeeded to the tyranny.

His capital was situated at Omdurman, near which, on Sept. 2, 1898, his army, though fighting with great bravery, was almost annihilated by the British and Egyptian forces under Sir Horatio Kitchener (Lord Kitchener). Abdullah escaped north to Kordofan but on Nov. 25, 1899, he was slain at the combat of Om-Debrakat.

KHAMA, kă'mā, a Christianized native African chief of a tribe in northern Bechuanaland: b. about 1846; d. Feb. 1923. Originally head only of the Bamangwato, a northern tribe of his country, owing to his struggle against the Boers he came to represent the interests of all of Bechuanaland. In 1884, after 12 years' struggle against the Boers on the part of Khama and other native chiefs, the whole of Bechuanaland was taken under British protection. Khama stood the firm friend of the British and assisted them against other insurgent tribes.

KHAN, kăn or kân, an unfurnished inn for travelers common in Turkey and other Eastern countries. There are two kinds, those for poor travelers and pilgrims, where a lodging is furnished gratis, and those for traders, which are usually more convenient, a small charge being made for each chamber. Khan is also the title of an Eastern or Asiatic ruler, as khan of Khiva. Such government is a khanate.

KHANDESH, khân-dēsh', or **CAN-DEISH**, Bombay, India, with an area of 10,041 square miles. In 1906 the district was divided into two new districts called West and

East Khandesh. Dhulia is headquarters for West Khandesh which has 5,320 square miles and a population (1941) of 912,214. East Khandesh, with Jalgaon for its chief city, has 4,598 square miles and a population (1941) of 1,327,722.

KHARGA, El, kār'gā, or **KHARGEH**, Upper Egypt, town, capital of the oasis of the same name in the Libyan Desert, 100 miles west of Thebes, in 25° 28' N., 30° 40' E. Among its numerous ruins are those of a temple of Ammon, and nearby is a remarkable necropolis. Pop. about 6,000.

KHARKOV, kār-kōf', (1) a northeastern oblast in the Ukrainian Republic of the USSR, bounded north by Sumy and Kursk, west by Poltava, east by Voroshilovgrad, and south by Dnepropetrovsk and Stalino. The area is a partially wooded steppe watered by tributaries of the Dnieper and Don rivers, and with a continental climate. Agriculture and stockraising are the chief occupations, the major products being grain, sugar beets, sunflower seeds, meat and dairy products. Potatoes and tobacco are other important crops. The principal city is (2) Kharkov, the oblast capital, and until 1934 capital of the Ukraine. The city was founded in the 17th century, and is 460 miles southwest of Moscow on the direct railway to the Crimea. Modern Kharkov is the 4th largest center of machine-building industry in the USSR, and has one of the largest tractor factories in Russia. Before World War II, it was the 4th largest city in the USSR. It is the Ukraine's largest industrial center and is supplied with steel and coal from the nearby Donets Basin. Besides tractors, the city manufactures airplanes, turbines, electric generators, locomotives, machine tools, farm implements, and military tanks. There also are large pulp and paper mills, woolen mills, and food processing, glass and shoe factories. During World War II, the city was badly devastated. Pop. (1939) 833,434.

KHARTOUM, kār-tōom', or **KHARTUM**, capital of Anglo-Egyptian Sudan, on left bank of the Blue Nile, near its junction with the White Nile. Founded under Mehemet Ali in 1823, it rapidly rose to be the chief town of the Egyptian Sudan, but after its conquest by the Mahdi it was abandoned for Omdurman, on the opposite bank of the river. In the latter part of 1898 it was again occupied by British and Egyptian troops, who found it in a ruined and neglected condition. It was then a straggling place covering a wide area, with irregular streets and houses mostly built of sun-dried bricks. Since the British occupation the town has prospered, great improvements have been carried out, and a handsome broad avenue on the bank of the Blue Nile has been laid out. There are a number of mosques, a Coptic church and the palace of the governor general. The strong strategic situation of Khartoum, with rail connections to Upper Egypt and the Red Sea, and water routes to Abyssinia, Uganda and the Belgian Congo, make it the natural emporium of a vast region. It was the scene of Gordon's heroic defense against the insurgent Sudanese and of his death in January 1885. The Gordon College, established here after the British occupation, was named in honor of him. This college trains aspirants for

minor magistracies in their work, has a manual training school and a well-equipped research laboratory. Pop. (1938 est.) 44,811.

KHASI, kā'sē, a section of India, occasionally said to be the rainiest area in the world. The Khasi States consist of 25 chieftanships, varying in importance, with a total area of 3,694 square miles. Myllem and Khyrim are the largest of the states. They are under the political control of the governor of Assam, with the capital at Shillong. The area was conquered by the British in 1833, but the government was left to the individual chiefs. The region abounds in fruits, plants, and vegetation of all sorts, and oranges, potatoes, and pineapples grow in profusion. The natives have had a low degree of civilization, and there have been examples of cannibalism. Valuable missionary work has been done among the people, however, with educational, religious, and medical training, and a large percentage of the population is Christian. Pop. (1941) 213,586.

KHASKOVO, kās'kō-vō, or **HASKOVO**, a town in south central Bulgaria, the capital of a department by the same name. It is situated on the country's main railroad line, and the important farm products of the area are grain and tobacco. Pop. (1934) 26,516.

KHATANGA, a river of the USSR in Siberia, its entire course being within the Arctic Zone. It flows through the Siberian tundra east of the Taimyr Peninsula into the Arctic Ocean. It has a vast glacially eroded estuary, the Bay of Khatanga. Its length is about 460 miles. The town of Khatanga is the most important of several valley settlements.

KHAYYAM, Omar. See OMAR KHAYYAM.

KHAZARS, a people of the Finnic stock known in the 7th century on the shores of the Caspian; in the 9th century their kingdom occupied the southeast part of Russia from the Caspian and the Volga to the Dnieper. Their capital was long at Astrakhan, called by them Balandshar. They were singularly tolerant of all religions, Jewish, Christian and Moslem; and a large part of the nation formally adopted the Jewish faith from Jews who fled from the persecutions of the Emperor Leo. It is not improbable that the modern Jews of Russia have at least an admixture of Khazar blood. Cyril converted many to Christianity in the 9th century. The power of the Khazars was broken in 965 by Sviatoslav. In the early part of the next century the destruction was completed by the Byzantine emperors and the Russians.

KHEDIVE, kē-dēv' (*Khidiv*), a Persian word signifying lord, the former title of the pasha of Egypt, granted by a firman from sultan June 12, 1867. In Persia it was at different eras adopted by provincial governors who were independent of the shah. The title, which had fallen into disuse both among Persian and Turkish governors was revived in Egypt to give additional honor to Ismail Pasha (1830-95), after whom the title was borne by his son and grandson, Mohammed Tewfik and Abbas II (q.v.). The latter was deposed on Dec.

914; the title of khedive was abolished and that of sultan substituted in its place.

KHELAT, or **KELAT**, *kē-lāt*, capital of Baluchistan, and residence of the chief khan of all the khans of Baluchistan. It is situated at an elevation of 6,780 feet above sea level on the sloping side of a mountain and it is surrounded by an ancient, massive abode wall, in places over 30 feet in height and of great thickness. The chief fortification of the city consists of the citadel surrounding the royal palace, the residence of the khan. The town has few industries but it is the centre of considerable local and foreign trade, the latter coming to it through its situation on various caravan routes reaching out to important neighboring industrial and commercial centres. The English forces took possession of Kelat during the Afghan War (1839); and since then the country has continued to maintain more or less close relationship with the British government, which obtained by treaty the right to have a British agent and military escort housed in the palace (1877). Since then British influence has been steadily on the increase. Pop. about 18,000.

KHERASKOV, *kēr'a-skōf'*, **Mikhail Matveevitch**, Russian poet: b. Pereyaslav, Poltava, of a Wallachian family, 1733; d. 1807. He began life as a soldier, but became assessor at the University of Moscow in 1755, in which institution he remained most of his life (1755-1801), devoting all his spare time to literature, pedagogy and journalism. He attempted almost every field of literary endeavor, but met with most success in the tragic drama, novel and fables. His most lengthy work is the 'Rossyad' (in 12 books) which is woven about the invasion of Kazan by Ivan the Terrible. It shows distinctly in form and manner of treatment, the influence of the 'Æneid' but it is quite Russian nevertheless.

KHERSON, or **CHERSON**, a former province and capital of the same name in Ukraine Russia. It lies between Kiev and Poltava on the north, Yekaterinoslav on the east, the Black Sea on the south and Padolia andessarabia, and has an area of over 27,000 square miles, of practically flat country lying at a very low elevation. Though watered by the Dniester, Bug and Dnieper, much of the country suffers frequently from insufficient rainfall. Among the industries of Kherson are foundries (principally for iron), machine shops, carriage and wagon factories, flour mills, agricultural machinery works, leather, hemp and wool establishments and marble and granite quarries. Stock-raising and fruit-growing form the chief agricultural pursuits of the south, while grain-growing is more popular in the north, and tobacco and wine are produced in favored localities throughout the whole "government." Population 3,500,000, principally Russians, with an admixture of Greeks, Germans, Bulgarians and Jews. Kherson, the capital, has a population of over 80,000, composed about the same as that of the "government" except that the Jews number over 30,000. It lies on the Dnieper, about 20 miles from its mouth. It is a distributing point to the interior for Odessa and Nikolaev of the imports of these centres of trade; and it helps to furnish exports for the foreign commerce of the district, especially in hides, flour, tallow, beer, wool and soap. Kherson is

one of the most progressive cities of southern Russia; it is modern in appearance and pleasing and the buildings are well constructed. It possesses an obelisk erected to the memory of John Howard who died there (1790). Among the industrial establishments of the city are tobacco factories and grain and woolen mills. The city, which was founded in 1778 by Prince Potemkin as a naval port with very strong fortifications, has erected a fine bronze statue to the memory of its founder. The fortifications of the new city were scarcely completed when Nikolaiev replaced Kherson as the southern naval port. The province is now called Odessa.

KHINGAN, *kīn-gān'*, a mountain range separating Mongolia from Manchuria, and running from the southeastern end of the Desert of Gobi to the Amur River, passing in its course through eastern Mongolia and western Manchuria. In some places the mountains reach an elevation of about a mile and a half above sea level. Further south in northeastern Manchuria on the southern side of the Amur the continuation of the range is known as the Little Khingan Mountains, while the larger range is known as the Great Khingan.

KHIVA, *kē'vā*, or **CHIVA**, formerly a vassal state of Russia, in central Asia, but now largely a part of the Socialist Soviet Republic of Uzbek. It is bounded on the north by the Sea of Aral, on the east by the river Oxus, and south and west by the Russian Transcaspian province. It formerly occupied a large extent of surface on both sides of the Amu-Daria or Oxus, but after the cession to Russia, in 1873, of its territory on the east of the Amu, was confined to the west side of this river. Its area is 24,000 square miles. A great part of the surface consists of deserts, thinly inhabited or uninhabitable, but along the Amu the land is of a very different character, consisting of rich alluvial loam of the greatest natural fertility. Owing to the great dryness of the atmosphere, however, it soon becomes so stiff and hard that it cannot be penetrated by any ordinary implement. For this the obvious remedy is irrigation; and accordingly, from the earliest period, a mode of culture resembling that of Egypt has been practised. Large canals from the river, with numerous minor branches, intersect every part of the surface, supplying moisture where it is wanted or removing it where it is in excess, and securing the most luxuriant crops of wheat, maize, rice, barley and legumes. Cotton, silk and madder are also generally cultivated. The vine thrives well, but requires to be defended against the winter cold by a covering of straw and earth; all the ordinary fruits, including apples, plums, cherries, apricots, figs and pomegranates, are common. Trade is carried on chiefly with Russia. The principal exports are raw and spun cotton, in return for which are received various articles of European manufacture, as metals and ironware, woolen, cotton and silk goods, etc. The government of Khiva was an unmitigated despotism. The greater part of the inhabitants are Tajiks and Uzbeks, in nearly equal numbers. After these are Persians, Karakalpaks, Jamshids and Turcomans. They are Mohammedan in faith. The designs of Russia on Khiva long caused disquietude in Britain, which has always been jealous of Russian advances in Asia, mainly from a dread of

interference with her Indian Empire. Accordingly Count Schouvaloff was dispatched to England in January 1873, to give explanation respecting an intended expedition to Khiva. Its object was represented as simply the suppression of brigandage, the recovery of a few Russian prisoners, and to teach the Khan to desist from acts of violence in the future. The emperor, it was said, had given positive instruction that Khiva should not be taken possession of. In spite of these protestations, however, Khiva was taken possession of on 10 June; and later in the year, though the nominal independence of the Khan was stipulated for, it was decided to annex to the Russian dominions the Khivan territory on the right bank of the Amu. The Khan also renounced all right of making wars or treaties without Russian sanction. The population is estimated at 519,000. Consult Abbott, 'Narrative of a Journey from Herat to Khiva'; Burnaby, 'A Ride to Khiva' (1887); Colquhoun, 'Russia against India' (1900).

KHLESL, klä'sl, **Melchior**, or **KLESEL**, Austrian prelate: b. Vienna, 1552; d. 1630. Educated in the Protestant faith, he became, early in life, a very strong Roman Catholic and an advocate of a united Christian faith, but one in which all should bow to the teachings of Mother Church. He soon became looked upon as the champion of Catholicism in Austria; and his influence extended throughout all the German-speaking countries. Owing to his earnestness and ability, he rose rapidly and became bishop of Vienna at the age of 50 and cardinal 13 years later. With each successive dignity his power increased. A great friend of the Archduke Matthias, he was appointed by the latter Chancellor on his coming to the throne. This gave him political as well as ecclesiastical power which he exercised with all his accustomed energy. But unfortunately he became mixed up in politics, took part against the Emperor Rudolph and tried to persuade Ferdinand II and Duke Maximilian of Bavaria to discontinue the war with Bohemia. As a result of this political interference he was imprisoned in the Castle of Ambras (in the Tirol). The case was appealed to Rome and Klesel was acquitted by the papal authority and sent back to Austria, where an armed truce existed between him and Ferdinand (1627). His correspondence and controversial works published in Vienna in four volumes (1847-51) form very valuable material for political and ecclesiastical history of his time. Consult Kerschbaumer, 'Kardinal Klesel' (Vienna 1865).

KHLYSTI, or **KHLISTI**, klis-ti', a Russian sect which made its appearance in the 17th century under the leadership of Daniel Philinovich, a fanatic soldier, who, deserting the army, wandered about the country proclaiming himself the incarnate God. With him went an adopted son whom he asserted was Jesus, the Christ, and the Son of God; and an adopted daughter whom he put forward as the Virgin Mary. Khlysti was a man of great oratorical power and exercised a strange influence over the country people who followed him and became fanatically attached to him. The sect grew with wonderful swiftness and its presence was everywhere made manifest by hysteria and religious exaggeration. In vain the government attempted to stamp out the movement;

for the adherents met in secret and the sect is still in existence. Out of it grew other sects of similar tendencies, all of which are noted for austerity of life and simplicity of dress. Fasting and other methods of weakening of the flesh were a part of their regular procedure from the beginning and still signalizes them. They all look upon themselves as gods, or children in the flesh of God and as such pray to one another and they address one another as God, Saviour, Redeemer and Mother. The heavy hand of the Russian Church and government fell upon them and they were accused of blasphemy. Hundreds of them were exiled to Siberia or imprisoned in Russia. The Khlysti are also commonly known as Daniches, from the baptismal name of their founders.

KHMERS, kmërz, the earliest-known inhabitants of Cambodia. In the course of time they have been forced to retreat to the low, marshy lands of the country and neighboring sections of Cochin-China and Siam. At the late date it is very difficult to tell whether they were originally a pure race consisting of one linguistic stock when they first came into the country they now occupy, or were then a mixed race. It is certain that they are now linguistically and ethnologically made up of different races; but this may be the result of their constant contact for many years with the various races by which they have been surrounded and with which they have come into touch. In their language are to be found traces of Mongolian, Dravidian and Aryan influences; but to which of these races they originally belonged, it now does not seem to have been definitely decided though much has been written on the subject and extensive investigations, chiefly of a linguistic nature, have been undertaken. These would seem to place the Khmers either among the Malays or Polynesians or among both, making them a hybrid race. Although their language retains many Mongolian affinities, their appearance is not typically Mongolian and they have normally neither Mongolian nor Mongolian eyes, the hair being inclined to be wavy and the eyes very like those of the Indo-European races. But these physical characteristics are not a sure indication that they may not have originally been of Mongol stock; for the Turks, for instance, have lost, through intermarriage and mixture of races, their very marked original racial characteristics. The Khmers are taller, darker and more slender of form than the races among which they live or by which they are surrounded. That they have long been a cultured race there seems little room for doubt; and it is generally conceded that they were the builders of the magnificent ruins of very ancient edifices to be found in what is generally conceded to be the primitive area of Khmers occupation. These consist of noteworthy pyramids, temples, palaces and other buildings executed with considerable taste, skill and knowledge of the principles of architecture as generally known in the more primitive stages of Indian culture. These edifices show progressive stages of development, just as do the buildings of pre-Columbian America, more especially those of Yucatan, Central America and Peru. There are indications that the later Khmers edifices were influenced by the lighter and more artistic in-

ian architecture and cultural taste. Evidence goes to show that the best of the architectural age of the Khmers extended from 700 to 1400 B. This span of 700 years was undoubtedly influenced by the then prevailing Indian architecture, though the base of all the Khmers building was certainly indigenous and not derived from India; the proof of this rests in the fact that these buildings are so different from anything that India produced at that time or since. The modern Khmers are still skilled mechanics, and are especially noted as gold and silversmiths. See CAMBODIA; COCHIN-CHINA; THAILAND.

KHNOPFF, knöpf', **Fernand**, Belgian painter, etcher, and sculptor, b. Termonde, Sept. 12, 1858; d. Grembergen, Nov. 14, 1921. He abandoned a career in law in favor of painting, and developed an excellent technique and breadth of view distinguished for its originality. Nevertheless, his beautiful and harmonious pictures, and exquisitely conceived and executed female figures frequently lacked vigor and strength of imagination. His originality was not of that forceful kind which has the power of creating original conceptions and presenting them in a vigorous and convincing form. His most beautiful creations, therefore, have their birth more often in imitation than in original thought. The best of his works were his portraits, and he seemed to find more than his usual inspiration in many of the faces he was called upon to reproduce. He was a very popular artist, especially as a portrait painter, and consequently many of his best and most interesting pictures are in the hands of private individuals. Among his better known works are *The Crisis*; *The Temptation of Saint Anthony*; *Memories*; *I Lock My Door upon Myself* (Brussels Gallery); *White, Black and Gold* (Brussels Museum); *The Idea of Justice*, *Isolde*.

KHOLM, Russian name of the Polish cityholm (q.v.).

KHOLMOGORI, kul-mû,gô'ri, Soviet Russia, town of the Arkhangelsk Region, Russian Soviet Federated Socialist Republic, situated on an island in the northern Dvina River, 10 miles southeast of Arkhangelsk. Excellent cattle are raised in the surrounding district and exported in considerable numbers. Peter the Great developed the town as a point of shipping the line of the White Sea trade, but later it was outstripped by Arkhangelsk. Pop. 1,000.

KHOMYAKOV, kô-myû-kôf', **Aleksei Stepanovich**, Russian dramatist and poet; b. Moscow, 1804; d. 1860. After serving through the Russo-Turkish War of 1828-1829 he adopted a literary career and soon became distinguished as a lyrical poet and a pronounced Slavophile. With the strongly imaginative sight of the born poet he saw in Russia the most beautiful, most wonderful, most nearly perfect, most ideal country in all the world. In the Slavs he saw the birth of a new race, destined to take the place of the effete West, the empire founded by the Germanic tribes upon the ruins of the Roman Empire. In the West, in the Germanic-Roman people, he could see nothing good; in the Pan-Slav countries, headed by Russia, he had a vision in which everything was altogether lovely

and alluring. Because of this he naturally found a very large following of pro-Russians more inclined to listen to flattery than to the naked truth. His first notable work was *Ermak* (1832), a tragedy in verse distinguished for its poetic touch and vivid imagination. This drama was followed the next year by a second, entitled *Pseudo-Demetrius*, built about the romantic career of one of the pretenders to the Russian throne who actually succeeded in deceiving a large percentage of the Russian people, and who made good his pretensions for a time. In felicitous prose he wrote *A Message from Moscow to the Serbians* (Leipzig 1860), which embodied his most ultra ideas on the Pan-Slavic question.

KHONDS, khôndz, or **KUL**, a people of India, of the Dravidian race, living in parts of Orissa and Bengal. They are of low stature, well built, and muscular, and of a warlike disposition which has made them good soldiers and consequently highly respected by their neighbors. They are less cultured than the races by which they are surrounded. They cling to the ancient Dravidian beliefs, in which nature worship forms the chief rôle. But among them almost every sect of India, and some of the European religions have a formal hold, though even where they prevail, they are grafted on the ancient religious beliefs and superstitions. The Khonds are said to have all the virtues of races in their stage of social evolution. They are kind and generous to one another, hospitable, faithful to their friends and allies, and implacable to their enemies. In one respect, they are above the standard of many races much more advanced than they, in that they are noted for their morality. Among their customs which have now practically disappeared was their practice of capture marriages and their human sacrifices, which were offered to the earth deity or to the mother of fertility and production.

KHORSABAD, kôr'sa-bâd. See NINE-VEH.

KHOSRAU, kô-srou', or **KHUSRAU**, kôo-srou', or **KHOSRU** (Greek CHOSROES, kôz'rô-êz), name of two kings of the Sassanidæ dynasty of Persia.

KHOSRAU I (called **KHOSRAU ANUSHIRVAN**, á-nôo-shêr-van', that is, "having an immortal soul"), reigned from 531 to his death in 579. His reign was the most eventful in the line of his dynasty. Though a younger son, he succeeded to the throne by the conditions of the will of his father, Kavadh I. At the time of his accession he was involved in a war with Justinian, Byzantine emperor. He terminated the war successfully in 532, but in 540 began a second attack upon the Byzantines, between whom and the Persians there had long been a standing enmity; in the bloody contest which ensued many of the battles were gigantic for their age. In the beginning of the campaign the Persians were the victors, sacking Antioch and extending their power to the Black Sea and the Caucasus, but failing to take Edessa in 544. Khosrau granted an armistice in 545, forcing Justinian to pay tribute, and in 562 made a peace which was to last for 50 years, in which the Persians promised not to persecute the Christians if they did not proselytize among the Zoroastrians.

Khosrau I, though a sincere adherent of the Zoroastrian faith was not fanatical, nor did he believe in persecuting those of other faiths but was tolerant of every Christian belief. Through his efforts Zoroastrianism was restored in full. War broke out again, however, in 571. The Persians were stirred to anger by the young Emperor Justin II, who treated their representatives at his court with notable disrespect, and added to this indignity by the seizure of Armenia in 570. Khosrau retaliated in 573 by the capture of Dara, which was the advance garrison of Grecian territory to the east. After several years of war with varying fortunes Khosrau was badly defeated in 577 at Melitine (Malatya) by Justin II, who was himself routed in Armenia two years later, shortly after the death of the Persian king. Khosrau I, who died in the fiercest part of the struggle, was long remembered as one of the greatest of Persian sovereigns. He greatly improved the government of the country, encouraged trade and commerce, promoted native industries, colonized unpopulated parts of the country, and rebuilt cities. He also extended the boundaries of Persia so that it stretched from the Arabian Sea far into central Asia, and from the Indus to the Red Sea. His name passed down into history with a cloud of striking legends and folk tales attached to it, so that he became, to the masses of the people, more a legendary than a real historical character.

KHOSRAU (called **KHOSRAU PARVEZ**, pâr-vâz', that is, "the victorious"), reigned from 590 to his death in 628. He was the son of Ormizd IV and grandson of Khosrau I. Following the deposition of his father, he was assisted by Mauricius, the Byzantine emperor, in securing the throne, having first defeated the Armenian insurgent Bahram Chobin. After Mauricius was assassinated by Phocas in 602, the Persian king made war upon the Eastern Roman Empire with almost unvarying success, and inflicted one defeat after another, punishing the Byzantines as they had never before been punished in all their history. He took from them all the land he had given them in the beginning of his reign (out of gratitude for services rendered him), and he invaded and conquered Syria (611), Palestine (614), Egypt and Asia Minor (616), and the following year Chalcedon. Heraclius, emperor of the Eastern Roman Empire, however, took courage from despair, and succeeded in a series of brilliant campaigns between 623 and 628, in recovering his lost provinces. Khosrau, repeatedly defeated in this second campaign, was driven back to the Tigris and completely overthrown at Nineveh. As the Byzantines advanced toward Ctesiphon, Khosrau fled with his favorite wife, Sira, without offering resistance. After witnessing the massacre of his numerous sons he was thrown into a dungeon where he was put to death by order of his eldest son who had deposed Khosrau and who was proclaimed king as Kavadh II.

KHOTIN, khô'tên, or **HOTIN**, hô'tên, Soviet Union, town of Bessarabia, Ukrainian Soviet Socialist Republic, on the right bank of the Dniester near the border of Poland. It is an important agricultural center, and has manufactures of leather goods and bricks. A Genoese colony in the Middle Ages, it was held successively by the Moldavians, Poles, Turks, and

Russians before becoming part of the kingdom of Rumania. With cession of Bessarabia to the Soviet Union after World War II the town reverted to Russian domination. Pop. 15,280.

KHUEN-HEDERVARY, kōō'ên hâ'dê vâ-rî, Count **Karl**, Hungarian statesman, Freiwaldau, Upper Silesia, 1849; d. 1918. At the age of 25 he became a member of the Hungarian House of Deputies, and in 1883 he was appointed ban (governor) of Croatia and Slavonia. In his score of years in this office during which he founded the pro-Hungarian Croatian Nationalist Party, he displayed a constant inability to understand the people and a facility for antagonizing them. He became minister president (premier) of Hungary in 1903. He achieved great unpopularity because of his want of tact and constructive ability and was overthrown by the Independents. During 1904-1905 he was a minister in the government formed by Istvan (Stephan) Tisza (to), and in 1910 again became minister president. Constant administrative difficulties compelled him to resign in 1912. He founded the National Workers' Party in 1913.

KHUFU, kōō'fōō (Greek *ΧΗΦΩ*, *ke'ups*) Egyptian king, founder of the IVth (Memphite) dynasty. He reigned about 2900-2877 B.C., the capital being Memphis. The builder of the largest of the pyramids of Giza, according to Herodotus he employed 100,000 men on the work constantly for 20 years.

KHURASAN, kōō'râ-san', Iran, extreme northeastern province, bounded on the north by the Soviet Union and on the east by Afghanistan. The area is about 140,000 square miles and the population is estimated to number 1,000,000. The mountainous region of the north has many well watered valleys with fertile soil but most of the center and south of the province comprises sandy desert. The most valuable mineral is the turquoise. Cotton, tobacco, grains, and fruit are cultivated, and aromatic plants and drugs are numerous and valuable. The principal manufactures are silks, woollens, carpets, and swords. Meshed is the capital.

KHUZISTAN, kōō'zî-stân', Iran, a southwestern province, south of Luristan and Bakhtiari and bounded on the west by Iraq. The area is approximately 30,000 square miles, and the population is estimated to number 300,000, of whom one third are nomads. Cereal and other crops do well in the fertile highlands in the northeast of the province, but the oil fields in the hot and unhealthy southern area, developed by the Anglo-Iranian Oil Company, are of prime economic importance. Oil refineries are on the island of Abadan, in the delta of the Shatt-al-Arab, nine miles south of Khorramshahr (Mohammerah) the capital).

KHWARIZMI, al-, ăl-kwâ'riz-mê (also **AL-KHUWARIZMI** or **AL-KHOWARIZMI**; full name in Arabic, **MUHAMMAD IBN-MÛSA AL-KHWARIZMI**), Arab mathematician: b. Khwarizm (nor Khiva), 780 A.D.; d. 850 or thereafter. He was the librarian of the Caliph al-Mamun at Baghdad and also worked in the observatory there, where he carried on his astronomical and mathematical studies. His learning, much of it founded on Hindu sources, had a powerful effect on the

development of mathematics in medieval Europe, where his works were known chiefly in Latin translation.

Al-Khwarizmi's best known works were: a geographical treatise, based on Ptolemy; a work on Hindu arithmetic; the oldest known astronomical tables, translated into Latin by Adelard of Bath in the 12th century; a work on algorism (this term is derived from his name), in which the so-called Arabic numerals and calculation by decimal notation were introduced to Europe; and a famous treatise on algebra. The latter, *al-jabr wa-al-Muqābala*, was based on a work by the Hindu astronomer Brahmagupta and was translated into Latin by Gerard of Cremona in the 12th century. It discusses the quadratic equation and other algebraic problems. The very word "algebra" comes from the title of this work.

KHYBER PASS, kī'bēr, in the Safed Koh range, the most important of the passes on the Pakistan-Afghanistan frontier. It is 10½ miles west of Peshawar and connects that city with Jalalabad and Kabul. The narrow defile winds northwest through a range of hills for a distance of about 33 miles and forms the bed of two streams, the one flowing northwest, the other south-southeast. The pass is at one part as narrow as 50 feet in width, ranging up to 450 feet wide, and in many places the cliffs on either side are inaccessible, rising at one point to 1,000 feet or more. Nine and a half miles from the Pakistani entrance to the pass is the former British fort of Ali Masjid, which was the scene of fighting during the Afghan wars of 1839-1842 and 1878-1880 and during the Afridi campaign of 1897. The highest point of the pass is at Landi Kotal, another British fort, on the Afghan border, 3,373 feet above sea level.

KI TSE, CHI-TSE, or more correctly, **CHI-TZU**, jē'dzū', Chinese feudal lord: flourished about the middle of the 12th century B.C. Tradition credits him with being the founder of Korean civilization and an ancestor of the Chinese philosopher and religious teacher Confucius. Semilegendary, semihistorical accounts of his life show him as a man of great strength of character and determination coupled with honesty of purpose. According to these accounts he attempted to reform the licentious Chinese emperor Chou Hsin (r. 1154-1122 B.C.), last of the Shang dynasty, who had developed into a ferocious and bloody tyrant, and was imprisoned for his pains until the overthrow of Chou Hsin. Liberated from prison by the conqueror, Wu Wang, Ki Tse still remained loyal and faithful to his sovereign and sooner than remain under the domination or submit to the government of the new ruler of China, he is represented as going off with 5,000 adherents far eastward and there founding a new kingdom in what is now modern Korea. The capital of this new kingdom was P'yongyang, where the remains of a very ancient tomb are still pointed out to the tourist and visitor as his.

There seems to be some doubt as to whether Ki Tse ever really existed, or if he did, that he performed all the things attributed to him. He was to the Koreans what Moses was to the Jews, their great lawgiver, leader, and, in a sense, prophet. He taught them most of the important activities of their national life, among them agriculture, in all its branches, and especially the

rearing of the mulberry tree and of silk worms, and the manufacture of silk, including its spinning and weaving. Ki Tse seems to have been more than a lawgiver and teacher of industrial activity, for he is credited with having formulated the Korean conception of morality, the proper relations of man to man and to society and the court; and he is credited with having laid great stress upon honesty and integrity in all the relations of life. *Shu Ching* (Book of History), one of the Five Classics, is attributed to him by the Koreans.

It is more than probable that Korean civilization was largely derived from China, but there is nothing in Chinese history which would support the Korean story of the coming of the founder and philosopher Ki Tse. In fact, the account of his wanderings and of his forced exile from his own country is exactly in accord with the adventures attributed to most of the great culture heroes of the world.

KIA K'ING, or CHIA CH'ING, jē-ä' ching', Chinese emperor: b. Nov. 13, 1760; d. Chengteh, Jehol, Sept. 2, 1820. He was the fifth emperor of the Ch'ing dynasty. Chia Ch'ing (or Kia K'ing) was his reign name, his personal name being Yung-yen. He was the fifth son of the Emperor Ch'ien Lung (or Kien Lung; 1711-1799), who in 1773 selected him as his successor, although this choice was not made public until 1795, when Ch'ien Lung announced his intention to abdicate. In the interval Chia Ch'ing was carefully educated, but chiefly in the classics, in the manner of the time in China. The new emperor ascended the throne on Feb. 9, 1796, but until his father's death the actual power lay in the hands of Ch'ien Lung and his minister Ho-shên. The latter used his position for personal profit, and in 1799, shortly after his father's death, Chia Ch'ing had the minister arrested and compelled him to commit suicide.

In 1799 the empire was in a lamentable condition, oppressed by extorting officials, torn by the rebellions of their victims, and, due to the great increase in population since about the middle of the century, was subject to severe famines in time of war or flood. The armed rebellions, of which the most serious was the Pai-lien chiao (White Lotus Society) revolt in Hupeh and Szechwan, were not put down until 1803 or 1804; the pirates active along the South China coast were not repressed until 1810; and there were frequent floods of the Hwang Ho.

Confronted with unrest and a constant drain on his treasury, Chia Ch'ing, due perhaps to his education and the habits formed during his apprenticeship, was unable to take the drastic steps necessary. Although he effected savings through rigid personal economies, the corruption among officials continued unabated.

A mission under William Pitt Amherst attempted to gain trading advantages for Great Britain in 1816. This followed a previous attempt by George Macartney in 1793, and like it, was fruitless, the issues remaining to be settled by the so-called Opium War of 1840.

KIABOUCCA, KIABOCCA, or KYA-BUKA, WOOD, all ki-ä-bōō-kä (also AMBOINA WOOD), a beautiful mottled wood coming, for the most part, from the Moluccas and Guinea, though also found in other countries. It is formed much in the manner of curly maple

and other similar woods, by the union of the branch with the tree or through excrescences on the outer part of the trunk and larger limbs. The darker shades of Kiaboucca resemble the lighter shades of gateado wood of Mexico and the Central American countries, while the lighter shades run into varying yellows or reddish yellows and oranges. This gives it a very rich appearance which makes it valuable for cabinet work and fancy caskets of various kinds, among them snuff and tobacco boxes. Wood of a somewhat similar appearance is to be found in India, though the Indian shades are neither so rich in color nor so varied in shades and combinations of shades. These Indian woods are obtained from the *Petrospermum rubiginosum* and the *Petrospermum suberifolium* and several other allied trees all of which produce valuable cabinet or building woods. Some of these have been successfully exported from India to Europe and there employed in the manufacture of fancy furniture. In general the representatives of these Indian woods in Guinea and Moluccas, with the one exception of the kiaboucca, have not been, to any extent, used outside their native country. Kiaboucca is frequently known on the market as Amboyne wood.

KIAKHTA, *kē-āk'tā*, a town in Buriat Mongolia, Siberia, not far from the Chinese border. It was originally surrounded by a wooden wall but the growth of the original trading station has been so great that it has spread beyond the fortress enclosure. Previous to 1860 it was the chief point through which the trade between Russia and China passed. The tea trade, which formed the chief international business of Kiakhta, amounted to over \$10,000,000 yearly in 1895. Since then this trade has declined to some extent, and with it went, for some time, the prosperity of the city, which had declined in inhabitants to about 5,000 in 1895. But since then Kiakhta has again begun to prosper on account of the rapid growth of Siberia and the general extension of trade, commerce and agriculture throughout the more habitable parts of these great eastern Russian domains. Pop. 32,000.

KIAMIL PASHA, Turkish statesman: b. Cyprus, 1833; d. there, 14 Nov. 1913. The son of an artillery officer, he was educated at the military school at Alexandria, Egypt, devoting himself mainly to the study of languages. Besides his native tongue, he learned English, French, Arabic, Greek and Persian. His first post was that of dragoman (interpreter) to the governor of Crete; after holding various offices in Cyprus and several governorships he became Minister of the Interior at Constantinople in 1878, followed by three other ministerial portfolios. From 1885 to 1891 he was Grand Vizier, and again in 1895 for a few weeks, when he was dismissed and made governor of Aleppo and later of Smyrna. Suspected of liberal views, he was deposed in 1907 and declared exiled. He took refuge at the British consulate, and after the intervention of the British Embassy was allowed to return to Constantinople. He was again made Grand Vizier after the revolution of 1908, but resenting the dictation of the Young Turk Committee he dismissed the ministers of War and

Marine in 1909, which led to a censure by the Turkish Parliament and his resignation. For the fourth time he was called to the helm of state in 1912 in succession to Ghazi Mukhtar Pasha. In January 1913 he was driven from office by the Young Turk *coup d'état* and retired to Cyprus, where he died the same year. Kiamil Pasha was a cordial friend of Great Britain, and it was his boast that he had been a reader of *The Times* for over half a century.

KIANG, *kē-äng'*, **DZIGGETAI** or **KULAN**, the large wild ass of Tibet and Mongolia, characterized by its large size (11 to 12 hands high), dark reddish color and the narrowness of the black stripe along the spine; some have faintly barred legs. They dwell upon the lofty, sterile plateaus north of the Himalayas, moving about in bands which travel at amazing speed over the stony plains and up and down the steep hillsides, feeding mainly on twigs of woody desert plants, and acquiring great hardiness. They are hunted by the Mongols as game, yet are not shy as a rule, coming close to a traveling party or camp, apparently actuated by extreme curiosity, unless driven away. The voice has been described as like the neigh of a horse; but the general and truer opinion is that it is more nearly the shrieking bray of the ass. The animal is nowhere domesticated, except a few captive specimens in zoological gardens. See **ONAGER**.

KIANG-SI, *kē-äng'sē*, or **KIANGSE**, an inland province of China. It is bounded on the north by Hupeh and Ngan-Hui, on the east by Che-Kiang and Fu-Kien, on the south by Kwang-Tung, and on the west by Hupeh and Hunan. The area is 69,480 square miles. The province contains the treaty port of Ku-Kiang on the Yang-tse-Kiang. The Nan-Ling or Southern Mountains traverse the eastern half of Kiang-Si, and in the north is the large inland lake of Po-Yang-Hu. Here are established famous manufactories of porcelain. The principal river aside from the Yang-tse-Kiang, is the Kin-Kiang. The province produces tea silk, cotton, tobacco. There is great mineral wealth, especially of copper and iron. The English have large railway concessions. There are telegraph lines connecting the treaty port with other centres of commerce. The capital is Nanchang. Pop. 15,820,000.

KIANG-SU, *kē-äng'soo*, an important maritime province of China proper, bounded north by the province of Shan-Tung; east by the Yellow Sea; south by the province of Che-Kiang, and west by the provinces of Ngan-Hui and Ho-Nan. Kiang-Su has an area of 38,600 square miles (about that of Pennsylvania). The great commercial importance of this province is denoted by its possession of four treaty ports, Shanghai, Nanking, Su-Chau and Chin-Kiang. Kiang-Su was in fact the first province opened to foreign commerce by means of a treaty port. It is traversed almost its whole length by the Grand Canal, the ancient Chinese system of canalized rivers and lakes. The British have valuable railway concessions and the Germans claim mining rights here. Half the foreign population of China is established in this province.

The Yang-tse-Kiang empties into the sea through this province and enables it to control

the trade of all southern China. Possessed of a soil of great fertility it is famous for its production of rice and silk and cotton. There are large mills. The capital of the province is Chin-Kiang, while Nanking is the capital of the Chinese republic. The Tai-Ping rebellion of 1853-54 had its headquarters in this province. Kiang-Su is rapidly becoming the centre of Chinese manufacturing industries, especially in textiles. Commercially, the province is controlled by the English, who have invested largely in railways, mills and government concessions. Pop. estimated 36,469,000.

KIANGANES, a Philippine tribe. See QUANGANES.

KIAO-CHAU, kē-ā-ō-chow', or **KIAO-CHOW**, a Chinese walled city and the name of a German leased territory which from 1915 to 1922 was held by Japan. The territory lies around the shores of Kiao-Chau Bay on the east coast of the province of Shan-tung and the city way outside the German sphere of influence. The bay is some 15 miles from east to west and from north to south, and has deep water anchorages in its southeastern portion. The territory of Kiao-Chau was seized by Germany in November 1897 in retaliation for the murder of two German missionaries by the Chinese, and in March 1898 Tsing-tau harbor, on the east of the bay, and the district adjoining, about 200 square miles, were transferred to Germany by treaty on a lease for 99 years. It was then declared a protectorate of the German Empire, placed under control of the navy department, and declared a free port. The territory comprised 33 townships, with a population of 192,000. Around the leased territory was a neutral zone, 2,500 square miles in area. Great improvements and construction works were then set on foot; a sum of \$7,000,000 was expended on the harbor of Tsing-Tau, a great coaling dock being constructed. An excellent water supply, electric lighting and telephone service were introduced into the city. The city was placed in 1906 under the Chinese Maritime Customs, 20 per cent of the receipts to be handed over to the German authorities. A railway was constructed from Tsing-Tau to Sinang, 252 miles in length, through the Shan-tung province, tapping a rich agricultural and mining section. The revenue of the protectorate in 1914 was £463,000, and expenditure £920,500. In 1913, 923 vessels cleared at Tsing-Tau (pop. 1,000), with a tonnage of 1,298,622 tons.

On 16 Aug. 1914, after the outbreak

of the Great European War, Japan called upon the German authorities to deliver up the leased territory by the 15th of September, and on 23 August declared war. The investment began on

1 August, and after a heroic resistance on the part of the German garrison, the city surrendered to the combined Japanese and British forces on 7 November, and from that time to 22 it was occupied by the Japanese. On 25 May 1915, it was announced that, following on negotiations between China and Japan, the territory would be returned to China on the conclusion of peace, on condition that the German privileges in the leased territory be transferred to Japan. The Chinese Maritime Customs was opened on 6 Aug. 1915. In accord with the Washington pact the former leased territory was

KIBITKA, a covered carriage without springs used in Russia; also the name of a tent used by the nomad tribes of Kirghiz Tartars.

KIBLAH, or **KEBLAH**, the point toward which the Mohammedans turn their faces in prayer. The term literally means "to lie opposite" and is derived from the Arabian "kahala" which bears this meaning, it being understood that the point indicated is opposite to the south. This point is, for those at a distance, the temple at Mecca, or rather the Kaab (q.v.) contained therein. It is said that Mohammed changed three times the direction in which his followers should face when praying. Finally he settled upon the Kaab (16 Jan. 624).

KICKAPOOS, a tribe of Algonquin Indians, formerly occupying a portion of the Ohio Valley. They were a powerful nation in the early history of that region, and were constantly in arms against the whites until in 1819 they concluded the sale of most of their lands and removed to the Osage River Reservation in Kansas. In 1852 a considerable number of them went to Texas and from there to Mexico; some of these returned, however, and settled in the Indian Territory. See INDIANS.

KICKHAM, kīk'am, **Charles Joseph**, Irish novelist; b. Mulinahone, County Tipperary, 1836; d. 1882. He was very active in anti-government and revolutionary circles; and he appeared, at the age of 22, prominently in the Young Ireland Movement. He received a warning, and later on he was arrested, tried and convicted of treasonable acts and sentenced to fourteen years' imprisonment (1865), only four years of which he served when he received a pardon. Previous to his arrest he had been active in the editorial department of *The Irish People*, the Fenian organ; but, on his liberation from prison he did his best to keep faith with the government. Then began the most active and brilliant period of his public career. He possessed a strange, tragic, though somewhat uncontrolled power which required only more mastery on his part to have made of him a notable novelist. Among his published works are 'Sally Cavanagh' (1869); 'Knocknagow' (1879); and 'For the Old Land' (1886). These are all characteristically Irish in their humor, their power of minute and careful observation, and the spirit of romance coupled with a depth of homely feeling which makes him one of the best delineators of Irish peasant and country life.

KICKING BIRD (TĒNÉ-ANGPÓTE), Kiowa Indian chief; b. about 1810; d. 5 May 1880. His grandfather was a Crow captive who had been adopted into the Kiowa tribe. The young man early distinguished himself by his martial gifts. He also won fame as a warrior. He saw the hopelessness of the struggle with the whites and used all his influence to induce his tribe to submit to the inevitable. He signed the first agreement to accept a reservation on 15 Aug. 1865 at Wichita, and the treaty concluded at Medicine Lodge 21 Oct. 1867, definitely fixing the Kiowa-Comanche-Apache reservation in the present Oklahoma. He took part in the resistance of the Indians to removal in 1868 nor in their raids into Texas. When the Federal authorities in 1873 failed to carry out their agreement to release the Kiowa chi-

imprisoned in Texas, he lost faith in the government and was induced to join the hostiles for a short period, but later he induced two-thirds of his tribe to return to the agency at Fort Sill, and thereafter he was recognized as the head chief of the Kiowa. In 1873 Kicking Bird invited and assisted in the establishment of the first school among the Kiowa. He died suddenly, by poison, according to the suspicions of his friends and at the request of his family was buried with Christian rites.

KIDD, Benjamin, English sociologist: b. 9 Sept. 1858. He entered the inland revenue service of Great Britain in 1877, and rose to sudden fame by the publication of 'Social Evolution' in 1894. The volume was translated into most of the languages of Europe and gave rise to considerable controversy, President Roosevelt publishing a series of papers in opposition of the views propounded in it. Its main proposition was that high moral and religious development in society was a process that ran exactly contrary to natural evolution and the Darwinian process of survival. He also published 'The Control of the Tropics' (1898); and 'Principles of Western Civilization' (1902); 'Herbert Spencer and After' (1908); 'Two Principal Laws of Sociology' (1909). D. 1916.

KIDD, John, English writer and geologist: b. London, 1775; d. 1851. Graduated in medicine at Oxford he became assistant in chemistry at the latter university (1801-03) and professor of the same subject (1803-22); regius professor of medicine (1822-34); and keeper of the Radcliff Library (1834-51). Though his main work was devoted to chemistry he also lectured on geology and mineralogy in which he took a very active interest and toward the popularization of which he contributed very considerably. Among his published works are 'Outlines of Mineralogy' (2 vols. 1809); 'A Geological Essay on the Imperfect Evidence in Support of a Theory of the Earth' (1815); 'Adaptation of Eternal Nature to the Physical Condition of Man' (1833); 'Medical Reform' (1841); 'Further Observations' (1842).

KIDD, William, American pirate: b. probably Greenock, Scotland, about the middle of the 17th century, executed London, 24 May 1701. He appears to have followed the sea from his youth, and about 1695 was known as one of the boldest and most successful shipmasters that sailed from New York. At this time the depredations of pirates upon British commerce had become so extensive that a company was organized in England, in which William Kidd and several noblemen were shareholders, to fit out an armed vessel for the purpose of suppressing the practice, as well as of deriving a profit from recaptures. Kidd, who had obtained some experience as captain of a privateer against the French, received a commission signed by the king, and directed to "the trusty and well beloved Captain Kidd, commander of the ship *Adventure Galley*," a vessel of 30 guns. Sailing from Plymouth, England, in April 1696, he cruised off the American coast for some months, occasionally entering New York, and finally sailed for the East Indies and the east coast of Africa. Upon his way he resolved to turn pirate, and finding his

crew not averse to the project, forthwith commenced a career of plunder and outrage among the shipping which frequented the coasts of Malabar and Madagascar, returning in 1698 with a large store of booty to New York. He took the precaution to bury a portion of his treasure on Gardiner's Island at the east end of Long Island, and subsequently went to Boston, where he boldly made his appearance in the streets, not doubting that under his commission he could clear himself from any charge of piracy. Such, however, had been the scandal which the report of Kidd's depredations had caused in England, that the Earl of Beilamont, governor of Massachusetts and New York, and one of the shareholders in the enterprise, caused him promptly to be arrested and conveyed to England for trial. The charge of piracy was difficult to prove; but having been arraigned for killing one of his crew, named Moore, in an altercation, he was convicted after a grossly unfair trial, and hanged at Execution dock. His name and deeds have been interwoven into popular romance, and form the subject of the well-known ballad commencing "My name is Captain Kidd, as I sailed, as I sailed," many of the incidents of which, however, are apocryphal. The treasures he had left, consisting of 738 ounces of gold, 847 ounces of silver, and several bags of silver ornaments and precious stones, were secured by Beilamont. But according to popular belief this inconsiderable amount constituted but a tithe of all he had collected, and down to the present time the shores of Long Island Sound and various parts of the banks of the Hudson River continue occasionally to be explored in the hope of discovering the abandoned wealth of the great pirate.

KIDDER, Daniel Parrish, American clergyman and educator: b. Darien, N. Y., 18 Oct. 1815; d. Evanston, Ill., 29 July 1891. He was educated at Hamilton College and Wesleyan University. He entered the ministry of the Methodist Episcopal Church in 1836. He was missionary to Brazil 1837-40. The death of his wife necessitated his return to the United States with his two little children. After brief pastorates in Paterson and Trenton, N. J., he was elected secretary of the Sunday School Union of the M. E. Church, 1844-56. At the same time he was editor of the Sunday School publications and tracts of the Church; professor of Practical Theology in Garrett Biblical Institute, Evanston, Ill., 1856-71; professor of Practical Theology in Drew Theological Seminary, 1871-81; secretary of the Board of Education of the Methodist Episcopal Church 1880-87, resigning because of poor health. He was editor of the *Sunday School Advocate* 1844-56. While secretary of the Sunday School Union he edited 819 volumes. He was a prolific writer. His most important works are 'Brazil and the Brazilians' (8th ed., 1857, 1868); 'A Treatise on Homiletics' (1864; rev. ed., 1868); 'The Christian Pastorate' (1871); 'Helps to Prayer' (1874).

KIDDER, Frederic, American historical writer: b. New Ipswich, N. H., 1804; d. Melrose, Mass., 1885. He was an authority on the language and religion of the New England Indians, and published 'The Expeditions of

Capt. John Lovewell (1865); *Military Operations in Eastern Maine and Nova Scotia During the Revolution* (1867); *History of the First New Hampshire Regiment in the War of the Revolution* (1868); *History of the Boston Massacre* (1870); also many short articles on historical subjects. Though he showed no great talent for narrative writing, he displayed capacity for painstaking, laborious and minute research. The New England Historical and Genealogical Society possesses his "Memorial of the Jones Family from 1648 to 1876," which contains an autobiography.

KIDDER, kĭd'ēr, **Kathryn**, stage name of Mrs. L. K. Anspacher, American actress: b. Newark, N. J., 1868; d. New York, N. Y., Sept. 7, 1939. After studying dramatic art in New York, London and Paris she made her debut as Lucy Fairweather in *The Streets of New York* by Mayo, in Chicago in 1885. Later she appeared in *Davy Crockett*, *Nordeck*, and *Little Lord Fauntleroy*. After 1894 she starred continuously in old English comedies, Shakespearean tragedies, and French dramas. Her earliest success was in Sardou's *Madame Sans-Gêne*, of which she obtained exclusive performing rights in the United States and Canada, in any language except French. She also played in *Molly Pitcher* (1902); *Salamambo* (1904); the part of Elizabeth in *The Embarrassment of Riches* (1906); Leonora in *A Woman of Impulse* (1909); Elinor in *The Glass House* (1911); and Nora Cathleen in *Shadow of the Glen*. In 1912 she starred in *The Washerwoman Duchess*, a version of Victorien Sardou's *Madame Sans-Gêne*.

KIDDERMINSTER, a city in Worcestershire, England, on the Stour River. It is noted for its carpets which are famous the world over. This industry which dates back to 1735 has gradually increased in importance and efficiency until now it is one of the largest and best conducted in the world. Already when the carpet industry first began in Kidderminster, the town was an incorporated place and its own establishment dated back as far as the Norman Conquest of England if not to an earlier date. It is probable that the making of carpets there had really begun before the date usually given as that of the establishment of the industry there, as it was a favorite town with the Norman aristocracy of the neighborhood who were given to patronizing the continental arts and crafts. The city has canal and rail communication with Hull, Bristol and Liverpool with which it does considerable business. Kidderminster has other very active industries besides that of carpets, among them being spinning and weaving mills, tin-plate factories and dye-works. Among the persons of note who were born in Kidderminster are Roland Hill, father of cheap and universal postage, and Richard Baxter the noted and eloquent Nonconformist minister. The trade between the United States and Kidderminster is considerable. Pop. (1947) 36,670.

KIDDERMINSTER CARPET, so called from being made in the town of that name in England. Another of its names, ingrain, signifies that it is made of wool or worsted dyed in the grain; that is, before manufacture. Its names two-ply or three-ply indicate the number of webs which go to the making of the fabric.

KIDERLEN-WAECHTER, kē'dēr-lēn-vĕktēr, **Alfred von**, German Foreign Minister: b. Stuttgart, 1852; d. there, Dec. 30, 1912. The son of a banker, he served in the war of 1870 and afterward studied law. He entered the Foreign Office in 1879 and some years later accompanied the emperor to Russia, Sweden and Denmark. He was minister in the free town of Hamburg in 1894, in Copenhagen 1895-96, and later at Bucharest. In Rumania he gathered a deep knowledge of Eastern politics, which led to his acting temporarily as ambassador at Constantinople and as chief at the Foreign Office. He became Foreign Minister in 1910. He conducted the Agadir negotiations in 1911 and was severely criticised both at home and abroad for his provocative attitude in the *Panther* incident. He succeeded, however, in relieving the strained relations between Germany and Great Britain, and endeavored to make a friend of Russia. See MOROCCO.

KIDNAPPED, by Robert Louis Stevenson, purports to be, as the subtitle sets forth, the "Memoirs of the adventures of David Balfour in the year 1751; how he was kidnapped and cast away; his sufferings on a desert isle; his journey in the wild Highlands; his acquaintance with Alan Breck Stewart and other notorious Highland Jacobites; with all that he suffered at the hands of his uncle, Ebenezer Balfour of Shaws, falsely so called." This romance, with a hero bearing a name taken from his own family tree, Stevenson declares to be the only one of his books in which "the characters took the bit in their teeth" and spoke and acted out the story for themselves. "I began it," he confesses, "partly as a lark, partly as a pot-boiler, and suddenly it moved, David and Alan stepped out from the canvas, and I found I was in another world." Because of the author's illness, the story, published in 1886, was broken off short with the return of the hero and the discomfiture of the wicked uncle. It was concluded in a sequel published in 1893 under the name of *David Balfour* in the United States, and *Cairiona* in Great Britain. *Kidnapped* owed its success largely to the admirable portrayal of the Highlander, Alan Breck. Matthew Arnold was delighted with it, and Andrew Lang pronounced it "a volume containing more of the spirit of Scott than any other in English fiction."

ARTHUR GUITERMAN.

KIDNAPING (from kidnap: *kid*, a child + English dialect *naf*, to seize or grasp). The original meaning of the word was the carrying away of a person to forced labor in the British colonies in America. Blackstone in his *Commentaries* defines it as "the forcible abduction or stealing away of a man, woman, or child from their own country, and sending them into another." In Great Britain the term was also formerly applied to the forcing of men into the army, and especially the navy, by press gangs. In the common law of today the term is used in a broader sense: thus, if a person is forcibly taken out of his way for any distance in his own country or locality, the individual so constraining him is held guilty of the crime.

In a limited sense the term "kidnapping" has been applied to the seizure of Negroes in Africa by enemy tribesmen, and by Arabs, Europeans

and Americans, with intent to sell them into slavery. This barbarous traffic continued in the South Seas as recently as the early years of the 20th century, but was finally suppressed by concerted action of the colonial powers.

In the United States long before the Civil War every state had enacted laws making kidnapping a criminal offence.

The first notorious case of kidnapping for ransom in the United States occurred on July 1, 1874, when kidnappers seized four-year-old Charley Ross in Germantown, Pa. They demanded a ransom of \$20,000 by mail, but were so fearful of detection that all attempts to make contact with them failed. The child was never found. The next notable case was that of the kidnapping in 1900 of the young son of E. A. Cudahy, an Omaha meat packer, by Pat Crowe, a professional criminal; the boy was returned to his parents on payment of a ransom of \$25,000. Although Crowe was afterward apprehended, tried for the crime and confessed, by a gross miscarriage of justice he was acquitted.

After 1920, with the rise of gangsterism during the prohibition epoch kidnappings greatly increased and constituted a national disgrace. The Chicago police in 1932 estimated that there had been 200 kidnappings in the past two years, and ransoms paid amounted to \$2,000,000. The kidnapping on Mar. 1, 1932 of the 18-month-old son of Col. Charles A. Lindbergh (the infant was murdered immediately after its abduction) caused enactment of federal laws in 1932 and 1934 prescribing severe penalties for interstate abduction, with the death sentence for cases in which the victim had been harmed or not returned before sentence was passed.

Notwithstanding the passage of these laws, there were many kidnapping cases in 1933, 1934, and 1935. Some of the victims were returned after payment of ransoms, but in other cases they were killed after extortion of ransoms in order to eliminate a witness. After 1935 the fine work of the Federal Bureau of Investigation (q.v.) in capturing and obtaining convictions of criminal gangs proved effective in greatly reducing the incidence of this type of crime. See also ABDUCTION.

KIDNEY BEAN, a bean of the genus *Phaseolus*, of which European species and varieties have been cultivated from time immemorial. (See BEAN). The wild kidney bean of the United States is a high-climbing vine (*P. polystachyus*), bearing small purple flowers. The so-called "kidney-bean tree" is *Histaria* (q.v.).

KIDNEYROOT, the purple boneset (q.v.).

KIDNEYS, the principal excreting organs of the body. Their main function is the excretion of urine. There are two organs, situated in the posterior part of the abdominal cavity on either side of the vertebral (spinal) column. They do not occupy the peritoneal cavity, being posterior to it and covered by a layer of fat and loose areolar tissue. Their upper portions are on a level with the last or 12th thoracic vertebra; the lower portions are level with the third lumbar vertebra. The kidney has a characteristic bean-shaped appearance, and is dark red to purplish in color. There is a deep indentation, the hilus, at the inner margin, which allows for the passage

of the renal artery and renal vein. The main portion of this indentation corresponds to the upper part of the ureter, whose funnel-shaped expansion merges with the pelvis of the kidney, which is the urine collecting portion. Kidneys vary in size somewhat, weighing on the average about 150 grams. The right organ is generally lower than the left. The kidney is covered by a firm membrane, the capsule, which in health strips off easily if incised. At the upper pole each organ is situated a suprarenal body, or capsule.

Anatomically the right kidney, anteriorly, is in direct relation with the under surface of the liver, the duodenum, the right or ascending colon at its flexure, and with the small intestine. The left kidney, anteriorly, is in direct relation with the spleen, the body of the pancreas, the stomach, and the descending colon. The interior anatomy of the kidney is best appreciated by sectioning it medially from pole to pole which reveals the cortex, medulla, pyramids, and sinuses. The kidney structure itself, while dense and seemingly tough, is torn easily by rough handling. Internally, the indented part of the kidney is found to expand into a central cavity, the renal sinus. This contains the upper part of the renal pelvis just referred to. Penetrating deeply into the kidney substance are the calyces, cup-shaped tubes or prolongations of the hollow portion of the organ, from 7 to 13 in number. The solid portion of the kidney is made up of an internal or medullary substance and an external or cortical substance. The former consists of red-colored, conical masses known as pyramids, whose bases are directed toward the circumference of the organ, the apices converging toward the renal sinuses, where they form exceedingly minute papillae which bulge slightly into the interior of the calyces. The cortical substance lies just beneath the kidney capsule and covers the bases of the pyramids. Here are contained the renal columns and the cortical arches. Much of the minute anatomy of the kidney can be seen only with the aid of a microscope, and especially in examining, microscopically, stained sections of kidney tissue. Such studies reveal that the kidney, for the most part, is made up of tiny tubules which have their origin in the cortical substance, winding a circuitous course through cortical and medullary substance and ending at the apices of the renal pyramids. Here they empty their minute mouths into the kidney pelvis, a so-called collecting bowl for emptying the excreted urine into the bladder, from which at intervals it is expelled from the body. Each papilla, or bulk into a renal pyramid, will be found to contain from 15 to 20 of these tubular openings. Each tubule begins in the renal columns as a renal corpuscle, not more than 0.02 mm. in diameter. A portion of this is known as the glomerulus, a lobulated network of twisted capillaries held together by loose connective tissue. The capillaries are both afferent and efferent, it is difficult to distinguish between arterial and venous vessels. Surrounding the glomerulus is a capsule, the *Malpighian capsule*. It has been estimated by scientists that from two to three million glomeruli may be present in each kidney. Anatomical malformations of the kidney are often observed. One organ is sometimes absent but, more commonly, one may be congenitally atrophic although normal in function. The commonest malformation is a fusing of two kidneys

one. Here they are joined generally at the two ends so as to form a single, horseshoe-shaped organ having a single ureter and situated in the middle of the abdomen. Again, the two kidneys may be united into a disklike body with one ureter. Double ureter is sometimes seen, and even the presence of a third kidney has been reported. The kidneys are frequently congenitally misplaced, being situated at a higher or a lower level than is considered normal. Sometimes a kidney may not be fixed firmly, but will be freely movable, appearing as a tumor, easily felt through the abdominal wall. This is known as "floating kidney" and is not to be confused with the acquired displacement of a single kidney known as "movable kidney." This last is fairly common, especially in women. Most of the departures from the normal which have been described cause few or no symptoms and may remain undiagnosed because of this fact.

Functions of the Kidney.—While the most important function of the kidney is the excretion of urine, one must not suppose that the organ is in any sense a purely mechanical filter. As pointed out in the section on anatomy, the structural unit of excretion is the renal corpuscle and the glomerulus and the renal tubule, the latter having three divisions—proximal tubule, Henle's loop, and distal tubule. This unit is often referred to as the *nephron*. Not all these tubules are in action at the same time, for nature maintains a reserve so that a considerable portion of the kidney may be damaged and its function still not interfered with. Again, if there is any unusual strain placed upon the kidneys, they are able to meet it with this reserve of excretory ducts. The actual operation of kidney functioning depends upon the passage of fluid through the glomerulus, and thus, in turn, is dependent upon such factors as arterial blood pressure and the permeability of the glomerular capillaries. The excretion of urine by means of the blood supply to the glomeruli and the tubules themselves is influenced by the sympathetic and parasympathetic nerves arising from the thoracic and lumbar nerve trunks and the vagus nerve. This excretory apparatus, controlled as it is by the sympathetic nervous system, is exceedingly complex, small changes in blood pressure causing changes in the urinary flow by its effects upon the glomeruli. Drugs (for example, adrenalin) will alter the rate of excretion. While glomerular filtration is an established fact, there is known to be a certain amount of reabsorption in the renal tubules, not all the fluid being excreted. Neither do all the substances present in the glomeruli find their way to the bladder. For example, sugar, chlorides, and sodium, all present in the blood, are excreted in the urine only if they exceed a certain concentration. Other substances, such as urea and creatinine, if kidney function is normal, are excreted whatever their concentration in the blood. It is stated that glomeruli can exercise a selective function in the excretory process. The volume of urine may be increased by more rapid filtration, by a reduced rate of absorption, or by a combination of both. As is well known, ingestion of large quantities of water increases urinary output. Other and secondary functions of the kidney are maintenance of blood pressure at proper levels, and maintenance of water balance.

Urine.—The quantity of urine passed by an average healthy adult will vary from a quart to

a quart and a half in 24 hours (1,000 to 1,500 cc.). Normal urine is a clear, straw-colored, or amber fluid with a specific gravity of from 1.015 to 1.025. It has a slightly acid reaction and is free from albumin and protein substances. Occasionally a normal sediment will contain a few leucocytes and other cells. Casts of kidney tubules are absent. Also in sediment may be found, without being evidence of disease, sodium and calcium salts, oxalates, and an occasional uric acid crystal. Sugar, except in the most minute amounts, is not found in normal individuals. Abnormalities of urine in various conditions are mentioned under the section on kidney diseases. Ingestion of large amounts of fluid will result in urinary output being increased many times. Fluid so taken is eliminated in about four hours. Normal or hypertonic salt solution taken by mouth causes only a slight increase in urinary output. After a large amount of water is drunk, the specific gravity of the urine may sink to 1.000 or 1.002, with chlorides and urea greatly diminished. Urinary flow is reduced by muscular exercise, in cardiac failure and inflammatory diseases of the kidney, as well as in fevers and dehydrated states. The amount of urine excreted at night is much less than during the day. Urine passed a short time after rising, and also that voided after a meal, is found to be much less acid than at other times. This is called the "alkaline tide" of the urine. From 40 to 60 per cent of the total fluid intake in 24 hours is excreted by the kidneys, and the amount varies inversely with the amount of water excreted by the lungs, skin, and bowels. Young children excrete, for their weight, about three or four times as much urine as do adults. Substances found in urine are classed as inorganic and organic. The former includes chlorides (NaCl), sulphur, sodium, calcium, and magnesium. The latter includes urea, uric acid, ammonia, and creatinine. Other organic substances, found only in minute amounts, include sugar, fatty acids, carbonates (or bicarbonates), diastase, and mucin.

Pathology of the Kidney.—From the time of Richard Bright (1789–1855), physicians have endeavored to classify diseases of the kidney according to their pathologic anatomy. Kidney lesions are associated intimately with pathologic processes and changes in other organs, and are thus only a part of a general systemic disease affecting the entire body. A clinical classification of kidney diseases is fully as important as one based on tissue changes which can be demonstrated only by post-mortem examination. Pathology and clinical medicine are so closely allied that it is useless to study or attempt to comprehend either alone. In general, a pathologic classification containing the essential features of Bright's disease (to use the eponymic and all-inclusive term) will divide kidney diseases, but not surgical conditions, into three main groups as follows:

(1) Acute or chronic nephroses, in which the lesion is degenerative, the kidney tubules being involved principally, although the glomeruli also may be involved, the clinical course being insidious and accompanied by edema of the tissues, but in which hypertension is absent. The urine shows casts, without blood elements or signs of acute inflammation of the kidney. The prognosis is variable and often unpredictable.

(2) Glomerulonephritis, in which the lesion is always inflammatory, the glomeruli being involved in a destructive process of greater or lesser degree, the clinical course varying in acuteness.

Red blood cells will be found in the urinary sediment, accompanied by casts, especially hyaline, granular and those having red blood cell elements. Such a process may lead to complete renal failure and death from uremia, or in recovery, complete or partial, with no definite time limit.

(3) Nephrosclerosis (arteriosclerosis of the kidney) in which the disease process involves the blood vessels of the kidney, the arterioles being hardened and contracted, with endarteritis and cell necrosis. Here the onset is often undetected, but as the years go by, there is increasing hypertension although edema is generally absent. The urine may show little but the presence of hyaline casts, and it usually gives only limited information as to the severity of the lesions. In this type of kidney disease, death may result from cardiac failure, apoplexy, or uremia.

The classification given here is a simple one but it must be subdivided further for a fuller understanding. The nephroses, for example, are not all alike and follow several patterns. There are several varieties recognized: the acute nephrosis, the rare lipid nephrosis (seen only in children), and the chronic nephrosis. In all of these, the pathologic process involves both kidneys, which are enlarged, and show cloudy swelling, fatty changes, and calcification. The capsule is easily stripped off and the underlying kidney is flabby, with the cortex greatly increased in thickness. In glomerulonephritis (acute, subacute, and chronic) the clinical division is somewhat artificial since transition stages are encountered. The pathologic anatomy in these different stages is of similar character. In the acute form, the kidneys are sometimes very large, weighing as much as 300 grams each. The capsule is tense, and if it is removed, areas of minute hemorrhage can be detected. The kidney substance is soft, cutting with diminished resistance. From the cut surface red fluid exudes. Blood vessels in all parts of the kidney are engorged, since the inflammatory process involves the whole kidney with the exception of the pelvis. In subacute forms the inflammation is less severe and the kidneys less enlarged. Here the kidney substance is often pale in color. All pathologic changes are less marked than in the acute form. In chronic glomerulonephritis the kidneys are characteristically reduced in size and an extremely small white kidney is indicative of the disease. The capsule is adherent and the kidney has a granular appearance, the granules being yellowish or pinkish. The kidney substance is tough and resistant, and sections with difficulty. The architectural pattern of the cortex and medulla, so characteristic of the normal organ, is largely obliterated or even absent.

Medical and Surgical Diseases of the Kidney.—Like the heart, the kidney is an organ one lives by. Nature, unwilling to trust man's life to a single organ of elimination, has endowed us with two. Should one kidney be destroyed by accident or disease, the remaining kidney will hypertrophy and carry on the function of excretion without appreciable disturbance to the health of the individual. It is impossible to divide sharply the medical diseases of the kidney from the surgical, for the medical disease of today may become the surgical disease of tomorrow. While not true in the strictest sense, it may be said that medical diseases of the kidney are those not amenable to surgical treatment and generally involve both kidneys. Surgical diseases of the kid-

ney are concerned usually with a single organ. In many cases, surgical invasion of a kidney, or its entire removal, will restore a patient to complete health.

Perhaps the most important and the most far-reaching disease of the kidney, involving a complexity of conditions and symptoms, is best described under a general and inclusive term known as renal (kidney) failure or renal insufficiency. Its manifestations are numerous, since the kidney has several functions. If the kidneys cannot excrete the nitrogenous waste products of the body, the latter accumulate in the circulatory system, with the result that, if unchecked, a condition develops known as uremia. If no relief can be obtained, this condition will end fatally. The principal nitrogen (nonprotein) waste products are urea, uric acid, and creatinine. They are present normally in certain amounts, but if these are exceeded, the percentage present, as determined by blood chemistry examinations, will often serve to indicate the progress of a uremic attack and to give warning if a fatal termination is to be expected. The symptoms of renal insufficiency are not only surprisingly numerous but they are infinitely variable. Renal failure, while sudden in acute cases, is indicated oftenest by gradual deterioration of health and strength, accompanied by poor appetite, upset digestion, frequent headache, and an otherwise unexplained anemia. In severe cases, cerebral disturbances are common; there is frequently stupor, sometimes coma. Even without such a seizure, patients are often irrational.

The heart may show evidence of disease, and in some cases swelling of the limbs (edema) or accumulation of fluid in the abdomen (ascites, dropsy) may be present. Not infrequently liver is detected. Two forms of renal failure are recognized, in one of which water is eliminated with difficulty (the common form of chronic nephritis), in the other, the kidneys fail to eliminate nitrogenous waste products, which, if continued, can lead only to a terminal uremia and death. Chronic nephritis, either with or without edema, received the name Bright's disease following a series of observations by Richard Bright (1827-1831). Although the eponym is less used now than formerly, it has endured for more than a century, earning a permanent place in historical medicine.

No description of renal failure is adequate without presenting the important chemical tests of blood and urine. The mere presence of albumin may have little significance. The simplest procedures are those of ordinary urinalysis. The color should be noted, especially if high or brownish, the volume should be known, and if markedly greater or less than the normal, this may be of importance, considering that excretion in 24 hours is in inverse ratio to the activity of the skin and bowels. Albumin is indicated by coagulation tests, using heat or mineral acids. It cannot be detected by a mere inspection of the urine. Microscopic examination of sediment is important in determining the presence of cellular elements, casts of the urinary tubules, and blood cells. Epithelial kidney cells are of diagnostic value. The most important abnormal elements are casts which are molds of the kidney tubules and consist of cylindrical bodies, transparent or granular, with cells attached. The presence of red blood cells indicates an acute inflammatory process somewhere in the urinary tract and not necessarily in the kidney. If the cells are

hed to the casts, the kidney alone is involved. An excessive number of white cells indicates pus in the urinary tract. Locations from which pus may arise are in the urinary tract, the kidney pelvis, the bladder, and the urethra. Other constituents of urinary sediment which may be detected microscopically are various salts, phosphates, oxalates, uric acid, and urates. Most of these are found in normal urine in small amounts, and only if these are excessive, do they point to disease. Blood chemistry in relation to kidney disease was practically unknown a generation ago, but is now considered indispensable in the intelligent study of nephritis and kidney function. The various tests in use give reliable information as to whether waste products which should be eliminated by the kidney are accumulating in the blood in unduly large quantities. Those most important are, nonprotein nitrogen (urea) and creatinine. If these constituents reach a certain level, this is a danger signal. Other important tests are the phenolsulfonphthalein test, introduced by Leonard G. Rowntree (1883-) and John T. Geraghty (1876-1924) in 1910; and the urea clearance test, first in use about 1928. The former consists of the injection of a dye into a vein, a fixed amount of water being drunk at the same time. The rate of excretion of the phenolsulfonphthalein by the kidneys is studied in fractional portions of urine passed in the succeeding two hours. If more than 25 per cent of the dye is excreted in the first quarter of an hour, kidney function is assumed normal. The test is not always completely reliable within narrow limits, but if it indicates less than 10 per cent of the dye eliminated in the entire two hours, the individual has but a few months to survive. The urea clearance test is a delicate one for estimating kidney function, requiring urea determination of both blood and urine specimens. If the kidneys fail to clear more than 50 per cent of the normal maximum (75 cc.) of blood of its normal urea per minute, when secreting at least 2 cc. of urine per minute, the fact may be regarded as evidence of serious impairment. Other tests, not given here in detail, are the concentration test, to determine the power of the kidney to concentrate (one of its functions), the dilution test, and the simple water-drinking test. In the last, the specific gravity of the urine is taken at intervals, after a definite quantity of water is drunk. In most cases of chronic kidney failure the specific gravity of the urine remains low (1.010), the normal average being 1.020.

Among specific clinico-pathologic conditions found in cases of renal failure, many of which were grouped formerly—and still are grouped by many—under the name Bright's disease, are the nephritides, a modern term indicating inflammation of the kidneys. Clinicians recognize both acute and chronic forms. The acute diffuse inflammation (acute glomerulonephritis) is characterized by gradual onset, with slight malaise, moderate fever, headache, and oftentimes sore throat, but with little physical evidence of involvement of the kidneys. The urine is highly colored, smoky, and diminished in amount. Albumin and casts are present and the sediment shows red blood cells. At the outset, blood chemistry may be normal. The cause is not always ascertained, but an attack of scarlet fever or acute tonsillitis may be responsible. Exposure to wet and cold may be a factor. The causative organism in many cases is a streptococcus. This

type of kidney disease lasts about two months, perhaps less, and ends in the great majority of cases without ascertainable kidney damage or predisposition to chronic nephritis. In from 15 to 20 per cent of cases, the patients do not escape so happily. In these, instead of the disease clearing up, it becomes chronic. This form of chronic glomerulonephritis, which follows upon an acute attack, is perhaps the only one in which the cause can be taken for granted. The patient may have few symptoms, or none at all, and yet the kidneys are functionally impaired as shown by tests. There is no specific treatment for acute glomerulonephritis. Dietetic and symptomatic care of the patient is most important. Until recovery sets in, bed rest is insisted upon. Protection from fatigue, cold, and wet should not be neglected. Attention to the bowels and the amount of fluid taken must be given. A subacute glomerulonephritis has been described, in which the onset and causation is much the same as in the acute form. There is progressive, massive edema of the limbs, anemia, and rapid loss of strength. The principal aid in the diagnosis of this condition is the time involved. In general, if a patient does not recover from an acute nephritis in two or three months and becomes worse, with edema more and more marked, a fatal termination may be looked for within one or two years.

Of all long-standing diseases of the kidney, the gradual diffuse inflammation known as chronic diffuse glomerulonephritis is the best known. It is this type that is so often referred to as Bright's disease. At one time it was thought to present a more or less constant set of symptoms, but two forms are now recognized, the wet and the dry. The ailment develops gradually, the wet or edematous variety being encountered less often than the dry, in which no swelling of the limbs is observed. The actual cause of this disease is generally in doubt, but in some instances it can be traced to an infection of years before. Whereas acute nephritis is commonly seen in young people, the chronic ailment is seen most often in those between 40 and 50 years of age. Its course may extend over many years. The kidney is generally small and contracted and its structure is atrophic. Renal function is much diminished, in late cases being only a fraction of the normal. Those afflicted show the common symptoms of renal failure. There is general malaise, loss of weight, pallor and anemia. Digestive upsets are frequent. A common symptom is an increase in night urine. Since the kidney has lost its power to concentrate the urine, the amount passed in a day is greater than normal. Although the low specific gravity of the urine and the presence of albumin and casts indicate the diagnosis, this does not tell the patient's actual condition, and reliance must be placed upon the blood chemistry and tests of renal function. During this long and wearisome disease, the patient will often suffer acute attacks and exacerbations, each one of which leaves him with further kidney damage.

Many patients perish from intercurrent diseases or infections following their weakened condition. A considerable number die of uremia. Individuals who have everything in their favor, such as excellent care, freedom from worry, and favorable climatic surroundings, may survive many years, while others not so favorably placed will live but a few years at most. In addition to the commoner types of kidney disease, there are acute and chronic inflammations of the kidney pelvis,

known under the general term of pyelitis, an infectious disease arising from a variety of causal agents such as the colon bacillus, the streptococcus, and the staphylococcus. It is frequently classed as surgical. Other diseases are the rare amyloid kidney, seen in chronic wasting diseases of long standing and resulting from general body deterioration. Occasionally the ingestion of drugs and poisons will cause irreparable kidney damage. The most serious is bichloride of mercury poisoning, accidental or suicidal. It is marked by acute hemorrhagic nephritis which may result in complete cessation of kidney function (anuria). Many cases are hopeless from the start, and the earlier bold attempts to save life by a decapsulation operation have not been brilliant successes. Ingestion of carbolic acid solutions is also damaging to the kidney as well as to other organs. Careless use of sulfonamides may cause serious symptoms requiring prompt recognition and treatment.

Still other diseases of the kidney are cysts of great variety and type, some small, others of huge size and unilocular or multilocular; occasional rare tumors; and circulatory disturbances often associated with disease of the general circulatory system, in which the kidney has a part. Many of the last are included under the term arteriosclerosis. Another term often employed is cardio-vascular-renal disease, another way of saying that the patient's heart, blood vessels, and kidneys are all deteriorating. A considerable number of abnormal conditions affecting the kidney, including many which were once treated medically, require surgical treatment, either instrumental or operative. Most of these affect the urogenital system as a whole.

Surgical diseases of the kidney present many varieties. The best known surgical malady is undoubtedly renal calculus, or stone in the kidney. This was described, including its relation to disease of the bladder, by Galen (c.130-c.201 A.D.) and it has plagued mankind ever since. More properly, the disease is called urinary calculi since the stones are usually multiple and are to be found in the kidney, in the ureter, and in the bladder, as part and parcel of the same continuing deposit of urinary salts. Sometimes stones occur with the patient's knowledge; but more often, in the kidney, they cause a train of symptoms which are classic and which, if they occur in middle life, are practically diagnostic. The exact cause of stone is not entirely settled, but it is probable that infections and disorders of nutrition are concerned in the process. A number of body chemicals are involved, mostly oxalates and uric acid which compose a large proportion of stones. Calculi vary in size from a small granule (gravel) to huge masses which may occupy a great part of the kidney pelvis and calyces (staghorn calculus), leaving little room for the collection of urine. A stone that is stationary may cause no symptoms, but if there is obstruction to the flow of urine, there is usually a severe, dull, ache in the loins due to distension of the kidney pelvis. If a stone is of small size and becomes movable, passing into the ureter on its way to the bladder, this will be accompanied by sudden, agonizing pain which soon becomes unbearable. Few bodily complaints are met with which demand immediate relief so urgently. The pain is referred first to the abdomen and later to the groin. Following relief from pain, which may be sudden if the stone passes into the blad-

der, blood may appear in the urine. Occasionally biliary colic may simulate kidney colic but the pain is usually higher and is on the right side. The usual treatment is by opiates and watchful waiting in the acute stage, with bed rest. In complete obstruction of the ureter occurs, in which the stone lodges in the ureter thereby blocking the passage of urine, surgical instrumentation or open operation may be required. Stones in the kidney which are not movable, due to their size, may demand surgical removal if the function of the kidney in which they are situated is not markedly lowered or lost. Large staghorn stones in which function of the kidney in which they lie has been destroyed, may be left where they are, or may be treated by removal of the affected kidney if the remaining kidney functions adequately. Tumors of the kidney are classed as benign and malignant, but only the latter are of importance. Cancer of the kidney is indicated by pain, by the presence of a tumor which may be felt upon bimanual examination, and by the occurrence of bleeding from a single kidney. The location cannot be determined by the patient but is revealed by examination of urine passed from each ureter through a ureteral catheter. Some malignant tumors do not progress to a fatal termination, but the outlook for recovery by any method of treatment is not favorable. Infections of the kidney are responsible for a number of diseases. The commonest are those caused by the tubercle bacillus, the colon bacillus, and various types of staphylococcus and streptococcus. Infection may come from the blood stream, the lymph channels, or by direct ascension to the kidneys from an infected bladder. Ultimately such infections may cause a localized abscess within the kidney, an abscess outside organ (perinephritic abscess), or result in pus in the kidney pelvis (pyelitis). Such diseases are frequently serious and are attended by prostration, fever, and prolonged ill health. In perinephritic abscess, evacuation of the pus by operation is necessary. Pyelitis is often recovered from promptly, but not infrequently the disease becomes chronic with continued ill health because of exacerbations accompanied by fever and prostration. Tuberculosis of the kidney may occur without much evidence of tuberculosis elsewhere, although it is regarded as secondary to a focus in some other location. If limited to a single kidney and not involving the ureter or bladder surgical removal of the kidney (nephrectomy) will result, in a majority of cases, in complete cure. However, in renal tuberculosis, surgical measures demand complete knowledge of the actual conditions present. Operation is never a routine procedure. Severe traffic and industrial accidents often require operation upon the kidney for repair of the injured or ruptured organ. If blood supply of the kidney remains adequate, such measures often save a kidney which might appear at first sight to necessitate removal.

Relationship of the Kidneys to Other Organs of the Urinary Tract.—A diseased kidney should be considered as a part of the urogenital system, particularly the urinary tract. This will include the kidneys, the ureters, the bladder, the prostate (in males), and the urethra. Not infrequently surgery of the kidney will involve surgery of the ureter as well. Damaged kidneys can result from infection of the bladder following contracted bladder, from stone in that organ, or from infection incident to an enlarged prostate.

Thus the successful treatment of a kidney ailment may be dependent upon treatment of bladder or prostatic disease. Finally, the diagnosis of surgical conditions of the kidney and urologic tract require a careful history, with recognition of important symptoms, such as the occurrence of chills, fever, and pain with especial reference to its location and character. Supplementing this, a complete study of the individual case with roentgenograms outlining the kidneys through the use of contrast media, together with cystoscopic examinations of the ureters and bladder, in most cases will indicate the source of trouble. In about 90 per cent of cases, urinary stones are revealed by X-ray films. The treatment of pyelitis may be medical or surgical. Surgical treatment consists in lavage of the kidney pelvis, if medical treatment fails of relief. The use of penicillin in selected cases is often helpful. Treatment of chronic bacterial infections of the kidneys is still a problem not always easy of solution, but there is reason for belief that in the future, specific medication will give better results than in the past.

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KIDO, kē'dō, Takayoshi, Japanese statesman; b. Hagi, Chōshū, 1832; d. Kyoto, May 27, 1877. His father, a prominent physician, gave his son the best education obtainable in Japan. His day, and the boy, intelligent, quick and ambitious, made the best of his opportunities. Coming of a semi-noble family he found almost no office open to him that he cared to aspire to. He had a strong faculty for taking infinite pains and doing things well; and the story is told of him that when Commodore Perry's forces visited Japan in 1854, he secured employment with it disguised as a laborer in order to learn all he could about the western nation that seemed to be pressing upon Japan conditions for which she had no love nor inclination. He did his work so well and maintained his disguise so completely that he was never discovered. This feat was characteristic of the man. But the adventure seems to have changed the whole trend of his thought. His contact with western life in this intimate manner gave him an insight into western ways that set him thinking in a new direction; and the result was that he continued to study the new conditions and civilization that he had thus unexpectedly discovered, with the result that he became convinced that Japan could no longer afford to continue isolating herself from the world. The natural result was that in 1868 he finally joined the revolutionary party of which he became the greatest thinker and planner. With Okubo, Saigo and Iwakura he worked out the details of the *coup d'état* of Jan. 3, 1868, which placed a new government in power subject to the Mikado alone and in reality changed the whole trend of the life of Japan, political as well as social. This revolution overthrew the power of the daimios and caused the abolishment of the feudal system. As a result 270 daimios relinquished their feudal power and agreed to hold their landed property directly

from the Crown. Thus Japan was placed, at one blow, on the road to that modern progress which astonished the western world. Kido, with his eyes ever turned westward, realized the power of the modern press and he founded the first real newspaper in Japan, the *Shimbun Zasshi*, which, under his able management, became a power for progress and modern ideas; and thus helped greatly to the leading of Japan along the pathway of western progress. This paper, founded in 1868, linked him firmly to western ideas; and turned his face ever westward. It also increased his desire to see and to know at first hand the civilization of which he had become, in a sense, in his own country, the champion. So, in 1873, he started out for a voyage round the world, as vice-president of a "traveling Japanese embassy," an idea of which he had himself been, in a sense, the sponsor. With him went another notable Japanese character, Prince Tomomi Iwakura (q.v.), one of the most intelligent of the Japanese revolutionary leaders. This world-wide trip made Kido a still stronger advocate of western civilization which he made every effort, through his court influence and his newspaper, to introduce into Japan. The translation which he had made of Montesquieu's *L'Esprit des lois*, which he caused to be published at his own expense, and which he largely advertised, did a great deal to influence the thinking class of the country in favor of a new and liberal constitution for Japan, which was finally secured in 1889. This constitution did away with the last vestiges of the feudal system and provided the machinery for a much more democratic administration of the affairs of the country, though it left it still firmly monarchical. Thus the result of his life-long labors bore fruit 11 years after his death. On his return to Japan in 1874, from his trip around the world, Kido became Privy Councillor to the emperor, a position which he retained until his death, and which enabled him to still further work for the ideas which had ever guided his life from the time he first made the acquaintance with western civilization through his first hand knowledge gained from his adventure with the Perry expeditionary party. His great qualities as a statesman and his single-heartedness in working for the good of Japan were recognized by posthumous honors during the exercises held in connection with the promulgation of the constitution of 1889 and in the raising of his son to the rank of a noble. Consult Morris, J., *Makers of Modern Japan* (London 1906), or any modern history of Japan.

KIDRON, kē'drōn, the Valley of Siloah (Wady Silwan), or the Valley of the Lady Mary (Wady Sitti Maryam), which lies to the east of Jerusalem, stretching from the foot of Mount Scipus north of the city, southward, then eastward, passing between Jerusalem and the Mount of Olives to En Rogel, south of the city, from whence it continues on southward to the Dead Sea under the name of Wady en Nar. The Valley of Kidron is frequently mentioned in Biblical narrative; and recent excavations show that it was, at one time, a place of much more importance than it is at present, for now it is the dried bed of a stream which flowed in Biblical times. Recent excavations show that the bed of the ancient stream now lies buried beneath nearly 40 feet of debris. An aqueduct cut into the rock in ancient times was

unearthed in 1880; and since then other evidence of the importance of the valley has been found buried beneath the sands that have blown in upon them. Among the important Biblical references to the Kidron are the following: when David fled from Absalom, he is credited with having crossed it; Absalom forbade Shimei to cross it; there Asa burned the idol which his mother had erected; there Josiah burned the asherah which had been taken from the temple; and there Hezekiah is said to have thrown into the Kidron River the altars found in Jerusalem.

Kidron was for generations a burial place for both Mohammedans and Jews, because of the belief that this spot is to witness the last judgment. To Christians the Valley of Kidron is of special historical interest because, according to the account of John, Jesus visited a garden there, in company with his disciples, shortly before his betrayal, judgment, and crucifixion. In 1950 this territory was annexed by the Hashemite Kingdom of the Jordan.

For 19th century archaeological discoveries in the valley, consult Benzinger, Immanuel, *Hebraische Archäologie* (Freiburg 1894; 3d ed., Leipzig 1927); Buhl, Frantz, *Geographie des Alten Palästina* (Freiburg 1896); Cheyne, Thomas K., and Black, J. S., eds., "Kidron," *Encyclopædia Biblica* (London 1899-1903).

KIDSGROVE, urban district, England, in northwest Staffordshire, 6 miles northwest of Stoke-on-Trent. Situated in a major coal mining district, it manufactures metal goods. It is in the neighborhood of the Five Towns or "Potteries" district of which Arnold Bennett wrote. Pop. (1951) 16,231.

KIDSON, Frank, English musical antiquary: b. Leeds, England, Nov. 15, 1855; d. there, Nov. 7, 1926. Kidson was one of the founders of the Folk-Song Society, and became a leading authority in his subject. His researches into the popular music of 18th century England are the foundation for later study. The collection of manuscripts he made was left to the Mitchell Library in Glasgow. He wrote *Old English Country Dances* (1890); *Traditional Tunes* (1891); *English Folk-Song and Dance* (1915); *The Beggar's Opera, its Predecessors and Successors* (1922). Another subject in which he became a specialist was Leeds pottery. With his brother, J. R. Kidson, he wrote *Historical Notes of the Leeds Old Pottery* (1892).

KIEFT, këft, Willem, Dutch colonial governor: b. Amsterdam, Netherlands, bap. Sept. 13, 1597; d. at sea, Sept. 27, 1647. The fifth governor of the New Netherlands colony, he arrived in New Amsterdam (New York) on March 28, 1638, and proceeded to carry out a number of construction projects and administrative reforms besides acquiring large tracts of land in what are now Queens and Westchester counties. His attempt to exact tribute from the Raritan Indians in 1640, however, led to a series of bloody reprisals; and when he proposed to launch a punitive war, the colonists refused to support him. Then, in February 1643, Kieft ordered a massacre of Weckquaesgeeks and Tappans who had sought refuge in the colony from the Mohawks. A general Indian war ensued, with many lives lost among the colonists in the remote settlements, Anne Hutchinson (q.v.) being one of the victims. Meanwhile, Kieft had been compelled to agree to the formation of a Board of Eight Men to participate

in the government of the colony. In the fall of 1644 the board began to petition the Dutch West India Company and the States General for its recall, and he was finally replaced by Peter Stuyvesant in May 1647. He died in a shipwreck off the coast of Wales on the voyage home. See also NEW YORK (city)—*History* (The City's Founding).

KIEL, kël, Friedrich, German musical composer: b. Laasphe, Westphalia, Germany, Oct. 7, 1821; d. Berlin, Sept. 14, 1885. While teaching music in a public school, he continued his studies, attaining a reputation as a local musician which led to his becoming a member of the private orchestra of Prince Karl von Wittgenstein-Berleberg. He studied at Coburg and at Berlin from 1842 to 1844. Many years later he was a professor in the Hochschule für Musik in Berlin. His compositions were mainly religious: an oratorio, *Christus*; a *Stabat Mater*, a *Requiem*, and a *Missa Solemnis*; but he also composed for piano, voice, and orchestra. He was distinguished particularly as a master of counterpoint and fugue, and was an influential teacher.

KIEL, Henry William, American public official: b. St. Louis, Mo., Feb. 21, 1871; d. there, Nov. 26, 1942. He received his education in the public schools and at Smith Academy. After learning the trade of bricklayer under his father's supervision he became vice president, later president of Kiel and Daues Bricklaying and Contracting Company, which was employed on many important contracts in St. Louis. Entering Missouri politics, he was first chairman of the Republican city committee, then presidential elector at large from Missouri in 1908. He was mayor of St. Louis from 1913 to 1925.

KIEL, city, Germany, capital and seaport of the state (*Land*) of Schleswig-Holstein, at the east end of the Kiel Canal, 55 miles northeast of Hamburg. Kiel was Germany's chief naval base, and in World War II was badly damaged by bombing, and its famous docks and shipyards reduced. Its university and many of its historic buildings were also damaged.

A very ancient town, it was a member of the Hanseatic League in 1284. In the 18th century it was part of Denmark. The Peace of Kiel in 1814 gave Norway to Sweden and Helgoland to England. In 1866 Schleswig-Holstein became part of Prussia. During World War I Kiel was the headquarters of the imperial fleet of Emperor William II, and surrendered in 1918, after which the fleet mutinied, beginning the short-lived revolution. Considerably restored since World War II, it now manufactures, among other things, machinery, precision instruments, chemicals, textiles, ceramics; prepares its famous *Kiele Sprotten* (smoked sprats); mills flour, and brews beer. It also builds fishing boats for deep-sea fishing. Pop. (1950) 253,857.

KIEL CANAL, Germany, in the state (*Land*) of Schleswig-Holstein, 61 miles long connecting the North Sea near Brunsbüttelkoo at the mouth of the Elbe estuary with the Baltic Sea near Kiel. Built primarily for military purposes in 1887-1895 to enable the German fleet to move between the two branches of the ocean without having to round the Danish peninsula, the canal also served the Baltic trade. Just before

World War I it was enlarged to take the big naval ships. Proclaimed an international waterway after World War I, its status was withdrawn by Adolf Hitler in 1936. Called the Kaiser Wilhelm Canal until the emperor's downfall, it is now often called the North Sea-Baltic Canal. It was damaged by bombs in World War II.

KIELCE, kyěl'tsě, province, Poland, in the southeast central region, comprising about 7,545 square miles. It is a hilly district, drained by the Vistula and other rivers. Its boundaries were rearranged by the USSR after World War II. Most of the former Russian provinces of Keltzy and Radom are included in the present Kielce. Its manufactures are mainly leather goods, textiles, paper, and trucks, and it produces several kinds of grain, flax, and livestock. The capital is Kielce.

KIELCE, city, Poland, capital of Kielce Province, 65 miles northeast of Kraków. The city passed through many hands during the long history of Poland, from its founding in 1173. Until 1818 it belonged to the bishops of Kraków, and developed as a town late in the 19th century. While part of Russia after 1815, it was the capital of Keltzy. During World War I there were battles here between the Russians and the Germans. Afterwards it was part of the newly-constituted Poland. During World War II it was a German administrative headquarters, was captured by Russia in 1945, and became part of a satellite Poland under USSR control. It is a rail junction; manufactures railroad cars and other iron goods; carries on brewing, milling, and processing; quarries stone, lime, and marble. In 1946, after a pogrom, most of the Jewish population left for the American Zone in Germany. Pop. (1946) 49,960; (1950 est.) 62,113.

KIELHORN, kēl'hörn, (Lorenz) Franz, German Sanskrit scholar: b. Osnabrück, Germany, May 31, 1840; d. Göttingen, March 19, 1908. After study at the universities of Berlin, London, Oxford, Breslau, and Göttingen, he became professor of Sanskrit at the Deccan College in Poona, India, where he was one of the founders of the *Bombay Sanskrit Series* in 1866. He returned to Göttingen in 1882. His *Sanskrit Grammar* has been used wherever Sanskrit is taught in European colleges. Contributions to *Indian Antiquary* and *Epigraphia Indica* made him widely known as a leading authority. He edited *Grundriss der indo-arischen Philologie* and translated and published Sanskrit texts in three volumes between 1878 and 1885.

KIELLAND, kēl'län, Alexander Lange, Norwegian novelist and playwright: b. Stavanger, Norway, Feb. 18, 1849; d. Bergen, April 6, 1906. Born into a wealthy middle-class family, he turned to literature primarily as a means of social criticism, publishing his first book, *Novelletter*, in 1879. His novels and short stories, marked by wit, stylistic elegance, and great descriptive power, castigate hypocrisy in the clergy, bureaucracy in official circles, and the oppression of the poor in Norway. After 12 feverishly productive years, he virtually stopped writing in 1891, serving thereafter as burgomaster of Stavanger and then as governor of Romsdal. Among his most powerful novels are *Garman og Hølse* (1880; Eng. tr., *Garman and Worse*, 1885); *Else* (1881; Eng. tr.,

1894); and *Skipper Worse* (1882; Eng. tr., 1885). His plays include *Tre par* (1886), *Betty's formynder* (1887), and *Professorer* (1888). A number of his short stories appear in translation in *Norse Tales and Sketches* (1896).

KIELMANSEGG, kēl'män-sěg, Count Erich von, Austrian statesman: b. Hannover, Germany, Feb. 13, 1847; d. Vienna, Austria, Feb. 5, 1923. On completing his education he entered government service, passing through the usual routine of various administrative posts in the provinces and in the Ministry of the Interior, finally becoming governor of Lower Austria (1889-1911) and minister of the interior (1895). For a short time he was prime minister. In his official capacity he showed himself a man of action, intelligence, and desire to better the conditions of affairs as he found them. He increased the size and importance of Vienna by taking into the city limits the suburban towns and villages; and he passed sanitary laws and other measures that benefited both town and country.

KIEN LUNG. See CH'IENT LUNG.

KIENSHUI or **CHIEN-SHUI**, jyēn'shwā, town, China, in central Yunnan Province, capital of Kienshui County, on the railroad that runs through Viet Nam to the coast. It is 100 miles south of Kuming, at an altitude of 4,836 feet. Manufactures of cotton and textiles are carried on, and there are rice mills. The agricultural products are mainly wheat, millet, beans, and sugar cane. It was formerly called Linan. Pop. (1948 est.) 27,618.

KIENSI or **CH'IENT-HSI**, chyēn'-shē, town, China, in west central Kweichow Province, capital of Kien County, 50 miles northwest of Kweiyang. Millet, tobacco, and rice are grown; cotton textiles are manufactured, as well as lacquer goods and tung oil. Pop. (1948 est.) 20,228.

KIENZL, kēn'ts'l, Wilhelm, Austrian composer: b. Waizenkirchen, Austria, Jan. 17, 1857; d. Vienna, Oct. 3, 1941. He studied in Graz, Prague, and Munich, where he met and was encouraged to compose by Adolf Jensen and Franz Liszt. His book on musical declamation brought him to the notice of Richard Wagner, whose influence became apparent in his operas. Kienzl's most popular opera in Germany, based on folk tunes, was *Der Evangelmann* (1895); he became known in the United States when *Der Kuhreigen* (Eng. tr., *The Dance of Death*) was produced in New York and Chicago in 1913. Other operas were *Urvasi* (1886); *Heilmars der Narr* (1892); and *Das Testament* (1916). An autobiography, *Meine Lebenswanderung*, appeared in 1926.

KIEPERT, kē'pěrt, Heinrich, German geographer, cartographer, and philologist: b. Berlin, Germany, July 31, 1818; d. there, April 21, 1899. His life interest was in all branches of geography and map making, and he traveled extensively to explore and to publish accurate maps. His first exploration in Asia Minor (1841-1842) led to the publication of *Atlas von Hellas und den hellenischen Kolonien* (1841-46). This was followed by *Neuer Atlas der Erde* (1857-61), *Atlas antiquus* (1859), and similar works. His fame brought him an appointment as director of the Geographical Institute of Weimar (1845-1852),

and professor in the University of Berlin (1859-1899). He published *Lehrbuch der alten Geographie* (1878), and an autobiography (1899).

KIEPURA, kyē-pōōr'ā, Jan (Wiktor), Polish tenor: b. Sosnowiec, Poland, May 16, 1902. As a boy he served with the Polish Volunteers (1920). After studying privately he sang on the concert stage in 1923, and made his debut in opera in Warsaw in 1925, singing in Charles Gounod's *Faust*. His popularity was such that he was known as the Polish Caruso. He toured Europe, singing in all the leading opera houses, and in Brazil in 1930. His first appearance in the United States was in *Tosca* with the Chicago Civic Opera in 1931. His debut with the Metropolitan Opera in New York was as Rodolfo in Giacomo Puccini's *La Bohème* in 1938. In 1939 he served with the Polish Legion in France, and toured the combat areas with his wife, Marta Eggerth. After the fall of Warsaw he devoted much of his time to singing for Polish War Relief in the United States, where he made his home. In 1943 he appeared with his wife in a revival of the *Merry Widow*. He made his first motion picture in England in 1931 and then several in Berlin, of which *Be Mine Tonight* was the most popular.

KIERAN, kē'rān, John (Francis), American newspaper writer and radio personality: b. New York, N. Y., Aug. 2, 1892. Educated at the City College of New York and at Fordham University, he taught in a country school, where he acquired an exceptional knowledge of birds and flowers. His active mind continued to acquire languages, law, and literary knowledge. In 1915 he became a sports writer on the *New York Times*, and (from 1927) the first to sign a daily column in that paper. He went on the road with New York baseball teams, visiting nearly every large city, and adding to his encyclopedic knowledge by visiting museums and libraries. All this stood him in good stead when he joined (1938) the panel of the radio show *Information Please*. He is the author of many magazine articles, as well as *Nature Notes* (1941); *American Sporting Scene* (1941); *Footnotes on Nature* (1947); and with Arthur Daley, *Story of the Olympic Games 776 B.C.—1952 A.D.* (1952); and is the editor of *Information Please Almanac* (yearly from 1947).

KIERKEGAARD, kīr'kē-gōr, Søren Aabye, Danish philosopher: b. Copenhagen, May 5, 1813; d. there, Nov. 11, 1855. Although Kierkegaard died in 1855, more translations and commentaries on his work and thought have appeared in the mid-20th century than in his own period. Princeton University has been particularly prolific in publishing translations of his work. He has profoundly influenced modern schools of thought in Europe and in the United States, such as existentialism (q.v.), and such philosophers as Jean Paul Sartre and Reinhold Niebuhr. He was radically opposed to the system of philosophy of Georg W. F. Hegel, to whom absolute knowledge was possible and rational. The idealism of Aristotle, Plato, and their followers, which assumes that man has the truth in himself and needs only to become conscious of this truth, was to Kierkegaard completely false. Truth, he said, must come from outside. God, or the Teacher, gives man not only truth, but the ability to understand it. Man has freedom of choice and must

exercise that freedom. Religion and faith involve suffering. "To be what one is by one's own act is freedom." This saying of Kierkegaard's is one of the tenets of existentialism.

He attacked established religion in the form that Christianity had taken by the 19th century, but held that though it is difficult to rationalize the existence of God, man must accept it by faith.

Educated at Copenhagen and in Germany Kierkegaard studied theology, then philosophy. On his return he went into retirement as a student, broke his engagement to Regine Olsen and wrote constantly for 25 years. Several of his books deal with his relationship to Regine, and his *Journals* go into detail. He frequently used pseudonyms to enable him to propose and discuss several points of view. His first publication, *Enten—eller (Either—or)*, 1843, was a kind of dialogue. It does not pretend to answer questions posed by philosophy, but presents the alternatives. Man has freedom to choose good or evil, aesthetically and ethically. *Stadier paa Livets vej (Stages on Life's Way)*, 1845, purporting to be written by "sundry persons," contained religious as well as aesthetic and ethical discussion. *Philosophiske smuler (Philosophical Fragments)*, 1844, was an introduction to his most important work, *Hyttende videnskabeligt efterskrift (Concluding Unscientific Postscript)*, 1846. *Synspunkter for en forfattervirksomhed (Point of View for an Author)*, 1848, describes his own education in Christianity. *Sydommen til døden (Sickness Unto Death)*, 1849, deals with the despair which was inherent in his thinking, and considers true Christianity the only cure for despair, or what the church calls sin.

His chief translators are Walter Lowrie and David and Lillian M. Swenson. His *Journals* edited and translated by Alexander Dru in 1938 are a valuable source of information. A collected edition in English reached 20 volumes by 1948. See also DANISH LITERATURE—The Modern Period.

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KIERSY, kyār'sè, or **QUIERZY**, Capitulary of, an edict of Charles the Bald (823-840), king of France and Holy Roman emperor, issued in 877—during his expedition into Italy. It provided that if any of Charles' followers died during this expedition, Louis the Stammerer, Charles' son and regent, should continue the deceased nobleman's son in his father's honors. It did not, however, provide that his lands would automatically become the son's, since the king maintained his right to dispose of vacant fiefs. The edict did not originate the feudal system which had been developing for some time, but assisted in its progress.

KIESEWETTER, kē'zē-vēt-ēr, Raphael Georg, EDLER VON WIESENBRUNN, Austrian writer on musical subjects: b. Holešov, Moravia (now Czechoslovakia), Aug. 29, 1773; d. Baden, near Vienna, Austria, Jan. 1, 1850. He was made an imperial councilor in 1803, and his home in Vienna attracted the most important musicians of his day, who performed there many works by Italian and German composers. He subsequently began to make a collection of old musical

instruments superior to any other in the city, and to write. Among his published works, in addition to numerous articles on ancient musical instruments, on which subjects he was an excellent authority, are *Geschichte der europäischen-ländischen oder Unserer heutigen Musik* (Leipzig 1834 and 1846); *Guido von Arezzo; sein Leben und Wirken* (Leipzig 1840); *Die Musik der Araber Originalquellen* (Leipzig 1842).

KIESLER, kēs'lēr, Frederick J(ohn), Austrian-American architect and designer: b. Vienna, Sept. 22, 1896. After attending the Technische Hochschule and the Akademie der Bildenden Künste (Academy of Plastic Arts) in Vienna, he began his architectural career in slum clearance and rehousing projects in his native city. Turning to designing stage settings, he introduced as the first of his many innovations the use of motion pictures rather than painted canvas as backdrops for the Berlin production of *R.U.R.*, in 1922. In a production of *The Emperor Jones* he introduced what he called the "space stage," with "continuous motion of scenery coordinated with acting, speech and lighting." He was appointed director and architect of the International Theater and Music Festival at Vienna in 1924, and two years later went to the United States on the invitation of the Theatre Guild and other organizations. The same year he received the commission to design New York's Museum of Modern Art. He won a prize competition for the design of a community center and theater at Woodstock, N. Y. In 1934 he joined the faculty of the Juillard School of Music as director of scenic design, and three years later was appointed director of Columbia University's School of Architecture laboratory for design correlation. In an article entitled "On Design Correlation and Biotechnology," he declared that "Design is in my definition not the circumscription of a solid but a deliberate polarization of natural forces toward a specific human purpose." In the 1930's he constructed the exhibition of the Association of American Designers and served as consulting architect for the National Public Housing Conference.

KIEV, kē'yēf, (1) an oblast in the north central section of the Ukrainian Soviet Republic of the USSR, bounded on the north by Belorussian SSR, on the west by Zhitomir and Vinnytsa oblasts, on the south by Odessa and Kirovograd oblasts, and on the east by Chernigov and Poltava oblasts. In the north, the region is a heavily forested plain with both deciduous and fir trees, and containing many swamps. The southern section is a partially wooded steppe with rich black soil. The climate is mild, winters are not severe, and rainfall is adequate. Agriculture and stockraising are the chief occupations, with a large production of meat and dairy products. Grain and potatoes are the main crops in the north, and sugar beets in the south. Many sugar mills are scattered throughout the southern section. Mining is almost nonexistent.

The capital and principal city is (2) Kiev, lying amid hills along the western bank of the Dnieper River. Filled with greenery, Kiev is one of the most beautiful cities in the USSR. The main part of the city is overlooked by castle-crowned heights with their walls and ancient fortifications, which still preserve an air

of the past. Kiev is one of the oldest cities in Russia, and was so prominent in history for so many centuries that it is known in Russia as the "mother of cities." It was already a town in the 5th century, and during the following four centuries continued to grow in importance and wealth until it finally became the capital and chief city of a principality of the same name. It had the distinction of being one of the first principalities in Russia to adopt Christianity. Under Vladimir I (q.v.) in the 10th century it became Christian. The prince had become convinced that connection with Rome would be very much to his advantage. So he set out with a large force against the Byzantine Empire, forced the Emperor Basil to give him his sister Anna in marriage and scared the pope into baptizing him. On his return to Kiev he sent forth a proclamation that all who did not come to the river to be baptized should be looked upon as rebels. The people flocked to the Dnieper, bringing their idols with them, as they had been ordered to do, and they were there baptized and their idols broken to pieces by order of Vladimir. Not satisfied with this work in his capital, Vladimir sent word to all the villages, cities and districts of his kingdom that the inhabitants, without exception, should follow the example of Kiev and become Christians.

From the time of Vladimir, Kiev continued to grow and prosper as the religious center of Russia and its richest and most famous city. It attracted the attention of the conquering Mongols of the 13th century, who descended upon it as they did upon other wealthy centers of Russia. The struggle was long and bitter, but finally the wealth, power and glory of Kiev passed away temporarily before the ravages of the Mongol hordes. In 1320, however, Kiev, coming under the rule of Lithuania, became a place of considerable importance, and retrieved a part of its past prestige and glory as a commercial and industrial city and the religious center of western Russia. When Lithuania became part of Poland in 1569, Kiev still formed a part of Lithuanian territory. It remained united with Poland until 1668, when it became Russian territory. Peter the Great paid considerable attention to Kiev, and made it one of the strongest fortresses in Russia in his day. Naturally, with so much momentous history, many relics of Kiev's past greatness are preserved in its ancient buildings. Among these are numerous churches dating to the time when it was the "city of churches." Of these ecclesiastical remains the monastery of Caves (Petcherskaya Lavre) is one of the most noteworthy, forming in itself a walled town with its many rows of cells. The city was the scene of massacres of Jews during the revolutionary disturbances of 1905, and it witnessed considerable fighting during the revolution of 1917. When the Ukrainian Republic was declared in January 1918, Kiev became its capital, but soon afterward the city was occupied successively by the Bolsheviks, the Germans, and the ataman Simon Petlyura. For a brief period during the Russo-Polish war of 1920 it was occupied by the Poles (May 7-June 11, 1920), but was recaptured by the Bolsheviks. During World War II it was badly devastated.

The third largest city in the USSR before World War II, modern Kiev is the capital of

the Ukrainian Soviet Socialist Republic. It is the largest city and greatest center of light industry in the Ukraine. The chief manufactures are river ships, chemicals, chemical machinery, machines for light and food industries, woodwork, food products, and cotton and linen textiles. Kiev also is an important river port and rail junction, as well as the cultural center of the Ukraine. Pop. (1939) 846,293.

KIFTI (IBN AL-KIFTI, ib'n ăl kēf'tē), Arabian historian and vizier: b. Kift, Upper Egypt, 1172; d. 1248. Born of one of the best families in the country he was well educated at Kift and Cairo. His father holding a position under the Sultan in Jerusalem, which had lately been conquered by Saladin (1187), Al-Kifti went to that city, where he became interested in studying the life of the people and the result of the conquest of the country on the inhabitants. These historical studies he was destined to continue all his life. In 1202 he was made vizier by the Sultan, a position he held until the death of the latter in 1216. But he was soon again called to the highest office in the land under the Sultan (1219-31) and again for the latter part of his life (1236-48). His administration was notable in the history of Arabian viziers. He not only attended strictly to state affairs and succeeded in helping greatly the prosperity of the country as a whole, but he encouraged literature and art and learning of every kind; and he set the example himself by undertaking extensive research work and writing histories. His work in this latter field was very extensive and highly esteemed in his day; but only one of his histories has survived to our day, the others having been destroyed during the Mongol invasion of 1260, only 12 years after his death. His one surviving work is known as 'Information of the Wise Men Regarding the History of the Scientists' (Kitāb Ikhhār al'Ulamā bikhhār al-Hukamā), and has come down to us only in part and that simply in extensive extracts made in another work in 1249. It treated of Mohammedan, Syriac and Greek philosophers and scientists. Consult Muller, A., 'Ueber das sogenannte ta'rikh al-hukamā des Ibn el Qifti' (Proceedings of the Eighth International Congress of Orientalists, Vol. I, Leyden 1891).

KIKUYU, kē-koo'yoo, a part of the Kenya Colony near Nairobi, Africa, situated upon the equator. It is principally noted for the controversy in the Anglican Church there, between the extreme High Church and the Low Church, the accusation being on the part of the former, that the bishop of Uganda, Dr. Willis, and the bishop of Mombasa had admitted to communion persons not members of the Church of England. On this charge Dr. Weston, bishop of Zanzibar, demanded the impeachment of the offenders. The matter was finally brought to the archbishop of Canterbury, who appointed a council to decide the question at issue.

KILAUEA, kē-low-ā'ā, an active volcano in Hawaii. It has an oval crater, nine miles in circumference, with a lake of red and boiling lava at the bottom over 1,000 feet below the crater's mouth. The volcano lies 10 miles from the sea, and 30 miles from Hilo, on the eastern slope of Mauna Loa, 4,000 feet above the sea. Kilauea

crater forms a great cavity on the side of the mountain, 3 miles long, 2 miles wide and 8 feet deep. At the southwestern end is a small lake of boiling lava called Halemanman, House of Everlasting Fire. Great eruptions occurred here in 1789, 1823, 1832, 1840 and 1880.

KILBOURNE, James, American pioneer b. New Britain, Conn., 19 Oct. 1770; d. Worthington, Ohio, 9 April 1850. He was successively employed as an apprentice, clerk, merchant and manufacturer, and having secured competence, presented himself as a candidate for orders in the Protestant Episcopal Church and was ordained about 1800. In 1801-02 he organized the Scioto Company, under whose auspices a colony of about 100 persons, under the lead of Kilbourne, was in 1803 established what is now the township of Worthington, Ohio. Having organized here the Episcopal parish of Saint John's, as well as others in the neighborhood, and procured the establishment of a western diocese by the General Convention of the Protestant Episcopal Church, he retired from the ministry in 1804, and was soon afterwards appointed a civil magistrate, an officer of frontier militia, and surveyor of a large portion of the public lands. In 1812 he was one of the commissioners to settle the boundary between the public lands and the great Virginia reservation, and also commissioned as a colonel in the frontier regiment; and in the succeeding year he entered Congress, of which he remained a member until 1817. He was the first to propose donations of lands to actual settlers in the northwest territory and afterward served for some years in the Ohio legislature.

KILDARE, kil-dār, parish, county and town of the same name in Ireland. The town, which is 25 miles southwest of Dublin, dates back to the 5th century when the present site was the seat of a monastery said to have been founded by Saint Bridget, daughter of an Irish king or chief, as the legend or story is variously stated. Bridget later became a nun, receiving the veil at the hands of no less a personage than Saint Patrick himself, according to the church legend which bears marks of authenticity. The famous monastery and the town itself are both in a somewhat decayed condition but they are still interesting on account of the many legends, stories and historical associations which cluster around them. Among the historical buildings of the town are the Round Tower, over 100 feet in height, on the top of the most elevated part of the site of the town; the convent of Saint Francis with its abbey and the abbey of the Carmelites. A very interesting relic of the past is the "Fire-house," a part of the chapel of Saint Bridget, in which there was maintained, according to the legend, perpetual fire for centuries, probably a remembrance of the pre-Christian fire worship of the Irish people. Pop. 3,000.

KILDEER. See KILLDEER.

KILGO, John Charles, American ecclesiast and educator: b. Laurens, S. C., 22 July 1861. He entered the ministry of the Methodist Episcopal Church South in 1882, continuing his college studies afterward so that he was graduated with the degree of M.A. from Wofford College 10 years later. He became agent for Wofford College (1889-94) and professor of

philosophy there during the same period, and for the following six years he was president of Trinity College, Durham, S. C. This position he resigned to accept the appointment of bishop (1910). He died at Charlotte, N. C., Aug. 10, 1922.

KILGORE, kīl'gōr, city, Texas, in Gregg and Kusk counties, at an altitude of 371 feet, 25 miles east of Tyler, and served by the Missouri Pacific Railroad and state and federal highways. It is in the center of an oil field some 60 miles long and 10 miles wide and all its businesses have to do with oil refining, oil supplies, and oil transportation. The surrounding country produces livestock, vegetables, figs, strawberries, and peaches.

The city is the site of Kilgore Junior College, and has a public library, a hospital, and over 40 churches. The town was first settled in 1872 and was incorporated in 1931, following the oil boom of 1930. Government is by a mayor and commission. Pop. (1950) 9,638.

KILHAM, kīl'ām, Alexander, founder of the Kilhamite or New Methodist Connexion sect: b. Epworth, Lincolnshire, July 10, 1762; d. Nottingham, Dec. 20, 1798. He professed conversion at 18, became a preacher in 1783 and two years later was enrolled by John Wesley as a regular itinerant. He was strongly in favor of complete separation from the Established Church and on the death of Wesley this subject came under discussion. He at once urged separation and sought moreover for the distribution of administrative power between the ministry and the lay members. For several offensive passages in his *Progress of Liberty* (1795), the pamphlet in which these views were expounded, he was tried at a conference held in 1796 and expelled from the denomination, upon which he immediately organized the New Methodist Connexion, sometimes called Kilhamites.

KILIMANJARO, kīl-i-mān-jā'rō, Mount (the Great Mountain), a double-peaked, snow-clad mountain of Africa, in Tanganyika, about 175 miles inland from the port of Mombasa. The highest peak, Kibo, estimated at 19,317 feet, is the highest known in the African continent.

KILKENNY, kīl-kēn'ī, an inland county, Ireland, in the province of Leinster, bounded on the north by Laoighis, on the east by Carlow and Wexford, on the south by Waterford and on the west by Tipperary. Its greatest length, north-south, is 45 miles, and its greatest width, east-west, is 23 miles. The name derives from Cill 'hoinnigh, that is, the Church of St. Canice (d. 598). The county is mostly hilly. There are coal (anthracite) deposits at Castlecomer and good black marble is also to be found. The Barrow, the Nore and the Suir rivers flow through the county. There are many ruins of historical and archaeological interest in various parts. Chief towns are Callan, Castlecomer and Kilkenny. Area 796 square miles. Pop. (1951) 65,131.

KILKENNY, an inland city, Ireland, and capital of the county of the same name. It is 73 miles from Dublin and is situated on both banks of the river Nore which is crossed by two bridges. It is also a station on the railway line which runs from Dublin to Waterford. Kilkenny, until recent times, was a most important center of civil and ecclesiastical affairs. For many hundreds of years it was regarded as the capital of

Ireland. Kilkenny as a town dates back to the 11th century. It was named after a church established there by St. Canice in the 6th century. It has always been a British stronghold and was originally given by the treacherous king, Dermot MacMorrough, to his daughter Eva as a wedding present when she became the wife of Strongbow. Later it passed into the possession of the Ormonde family. In 1367 a parliament was held here and a statute passed designed to prohibit English settlers from adopting Irish manners. It was furthermore made a capital offense for an Englishman to marry an Irish woman. Kilkenny was also the site of the parliament of the Confederation from 1642 to 1648 when the Anglo-Irish joined with the native Irish in an attempt to establish Ireland as a politically independent country. Many notable men have been educated at the grammar school there, among whom are George Berkeley, Jonathan Swift, and William Congreve. Some of Ireland's earliest dramatic performances took place at the Market Cross in Kilkenny. It is a very beautiful city and has many structures of great archaeological and historical interest, including Kilkenny Castle, overlooking the Nore, and St. Canice's Cathedral (13th century). It is now a market town for dairy and other agricultural products. There is also a fine grade of black marble quarried nearby and so the town has come to be called the "Marble City." In the city are published *The Post*, *The Kilkenny Journal*, and *The Kilkenny People*. Pop. (1951) 10,571.

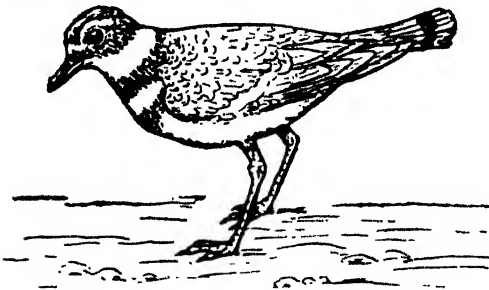
KILLARNEY, kī-lār'nī, an inland town, Ireland, in the county of Kerry on the Coras Iompair Eireann railroad system. The Lakes of Killarney, one mile from the town, are world famous. Nearest the town is the large lower lake, Lough Leane. The peninsula of Muckross separates it from the middle lake, Muckross Lake. A long strait called "The Long Range" connects with the upper lake. The area around the lakes is covered with oak, arbutus, birch, holly, and ash trees. In summertime Killarney is a popular holiday resort. In the neighborhood is a 10,000-acre national park, and there are ruins of the 15th century Muckross Abbey. Pop. (1951) 6,301.

KILLARNEY, town, Canada, Manitoba, on the Canadian Pacific Railway about 160 miles west of Winnipeg and 47 miles south-southeast of Brandon. It is the center of an agricultural country with which it carries on a rather extensive trade. The handling of grain from nearby farms has necessitated the erection in Killarney of several modern grain elevators. The town has lumber yards, a sash and door factory, a cement plant, flour mills and agricultural implement works. There are department stores and several groceries. Killarney is 35 miles from Peace Garden and is rapidly becoming popular as a summer resort on account of the nearby lakes. Pop. (1951) 1,262.

KILLARNEY, Lakes of, three connected bodies of water, Ireland, the lowermost of which is within one mile of the town of Killarney. These famous lakes are situated in a basin in the midst of the mountains of Kerry, some of which rise abruptly from the water's edge densely clothed with trees from base to summit. In the lower lake (Lough Leane) are a number of finely wooded islands, on the prin-

cipal of which are the remains of Ross Castle. Between the lower and the middle lakes is the fine ruin of Muckross Abbey. A channel winds $2\frac{1}{2}$ miles from the middle to the upper lake. The upper lake is the most enchanting of the three, and is thickly studded with islets.

KILLDEER (*Charadrius vociferus*), the most common and best known of American plovers. It is found over most of North America and in some parts of western South America. Though migratory in the north, it is quite hardy, lingering late in the fall and arriving early in the spring. During migration it is found, sometimes in flocks, on the seacoast but it also visits the most isolated water holes in the western deserts. When nesting, the killdeer is more independent of water than are most plovers. Seeking out an open pasture, field or village green, it scoops out a depression in the gravel and lays four protectively colored, spotted eggs. When the nest is approached, the setting bird sneaks away from it and then feigns having a broken wing, meanwhile calling *kill-dee, kill-dee* loudly to divert the attention of the intruder from the eggs. Indeed, the killdeer is one of the noisiest of American birds, heard by night as well as by day—hence the name "vociferus." Soon after hatching the four downy young follow their parents, instinctively snatching at small moving insects, which form a large part of their food.



KILLDEER

The killdeer is brownish gray above, with a chestnut rump, and a tail marked with black and white. The white underparts are set off by two black bands on the throat, not by one band as in many of the related species. The killdeer was never an important game bird.

DEAN AMADON,
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KILLER WHALE, *Orcinus orca*, of the family Delphinidae, a kind of whale or large porpoise also called Orca or Grampus. A full grown male reaches a length of 30 feet; a female half that size. The head is slightly rounded, ascending gradually and smoothly to the dorsal fin. In old males the triangular dorsal fin, the rounded flippers and the tail flukes are enormously developed, the dorsal reaching as high as 6 feet. In the female the development is much less great. The color is a startling contrast of clearly defined black and white. The belly, the chin, an oval patch above and behind the eye, and the under surface of the tail are white. About three-quarters of the way toward the tail, the white of the ventral surface projects upward and backward onto the side in an oval. Behind the dorsal there is a faint light saddle mark. In the young, the white areas are tinged with yellow. The conical

teeth are large and powerful, from 20 to 24 in each of the massive jaws. The upper and lower teeth interlock. The killer is the largest and most powerful member of its family. It hunts in pack, of from 3 or 4 to 40 individuals and is rapacious and exceedingly voracious. Unlike all other cetaceans, it feeds upon warm-blooded aquatic birds. It attacks the larger whales without hesitation, biting them on the lips and throat, sometimes in order to force them to surrender their young, which are torn to pieces and devoured. In one instance the stomach of a killer was found to contain the bodies of 13 porpoises and 14 seals. It has a world-wide distribution but is most commonly found in the Antarctic and Arctic oceans. Consult Norman, J. R. and Fraser, F. C. *Giant Fishes, Whales and Dolphins* (New York 1938).

CHRISTOPHER W. COATES,
Curator, The Aquarium, New York Zoological
Society.

KILLIECRANKIE (kīl-i-kräng'kī) mountain pass, Scotland, in the Grampians of northern Perth County, 34 miles northwest of Pitlochry by rail. Near here John Graham of Claverhouse, 1st Viscount Dundee, defeated the forces of William III led by General Hugh Mackay on July 17, 1689. Viscount Dundee was, however, killed in the moment of victory.

KILLIFISH, one of a group of small fishes of the family Cyprinodontidae. They have broad, depressed, scaly heads, large cycloid scales, a lateral line, and small very protractile mouths with several rows of pointed teeth. The common killifish or mummichog (*Fundulus heteroclitus*) seldom exceeds three or four inches in length and is exceedingly abundant in shallow waters along the shores of bays and estuaries, in brackish pools and tidal rivers from Maine to Mexico. It is extremely hardy and is beneficial to man because its omnivorous feeding habits include the larvae of salt marsh mosquitos. It is also widely used as bait. The sexes differ in color, the males taking on brilliant orange and bluish reflections. The striped killifish (*F. majalis*) reaches a length of eight inches, and is found in shallow salt and brackish bays from Florida to Cape Cod. Males have transverse and females longitudinal black bars. The species of *Fundulus* are oviparous but some genera of related families are viviparous.

CHRISTOPHER W. COATES.

KILLINGLY, kīl'ing-li, town, Conn., including several villages, in Windham County; alt. 300 feet; on the Quinebaug and Five Mile rivers; about 20 miles east of Willimantic. The railway station is at Danielson, on the New York, New Haven and Hartford Railroad. It was settled in 1693, and until 1708, was known by its Indian name of Aspinock. It was a textile manufacturing community until the shift of that industry to the South in the 1920's. Absorbent cotton is manufactured in East Killingly. South Killingly was the home of Mary Kies, probably the first woman to receive a patent in the United States, granted May 1809 for her straw and silk weaving machine. Pop. (1940) 9,547; 1950 (est.) 10,001.

KILLINGTON, kīl'ing-tūn, PEAK, in the Green Mountains, in the State of Vermont, about 10 miles southeast of Rutland. It is 4,241 feet high, and the view from

s summit is most beautiful; a large number of pretty villages and charming valleys may be seen on a clear day.

KILMAINHAM, kīl-mān'hām, a township of Dublin County and a suburb of Dublin City. It lies to the west of the city and is known generally throughout the British Empire on account of its military hospital which bears the name of the place itself, and its jail in which numerous political offenders have been confined, among them Parnell, who was placed there in 1882.

KILMARNOCK, a town situated on the Kilmarnock, in Scotland. It is in Ayrshire, only 12 miles north of the city of Ayr, and is the largest town in the shire. It is noted for its connection with the national poet, Robert Burns, whose first book was published there. The neighborhood of the city is given greatly to the production of cheese and one of the yearly events of its life is a great cheese show to which people come from far and near with tubs. The city, which has grown rapidly within the past 30 years, has a very active industrial life. It possesses large engineering establishments and various factories. Its blast furnaces also form one of the most prominent features of its industrial life. In addition to these, Kilmarnock also produces various other products. Pop. about 40,000.

KILMER, Joyce, American author; b. New Brunswick, N. J., 6 Dec. 1886; killed in France, 1 Aug. 1918. He was educated at Rutgers and at Columbia University, being graduated from the latter in 1908. In 1908-09 was instructor in Latin in Morristown High School; in 1909-12 was editorial assistant on the 'Standard Dictionary'; in 12-13 was literary editor of *The Chur. Human*. After 1913 he was a member of the staff of the *New York Times Sunday Magazine* and the *New York Times Review of Books*. He was a regular contributor to the *Literary Digest* and other periodicals. He published: 'Summer Love' (1911); 'Trees and Other Poems' (1916); 'Main Street and Other Poems' (1917); 'Literature in the Making' (1917); and edited 'Verses by Hilaire Belloc' (1916); 'Dreams and Images: an Anthology of Catholic Poets' (1917). In 1917 he enlisted in the 165th Infantry (old 69th New York National Guard), National Army; went to France and was killed in action near the Ourcq. See the work by his mother, Mrs. A. E. Kilmer, 'Memories of My Son, Joyce Kilmer' (New York, 1920).

KILN POTTERY. In modern practice, kilns, as used in the clay industries may be described in three general types, up-draft, down-draft and muffle kilns. The last named stands alone, as its distinctive feature lies not in the method of firing or the direction of the draft but in the fact that the kiln consists of a single laboratory closed to the direct entrance of flame and heated by radiation through the walls. This type of kiln is used in cases where it is necessary that the contained wares should be protected from dust and smoke, but where it is not convenient to enclose them in saggars. Large ware such as porcelain bath-tubs and sinks, heavy pieces of terra-cotta, etc., cannot be set in saggars as pottery is on account of weight and size. They are best burned in a

muffled kiln, being set directly upon the brick floor. Muffled kilns are also used for burning painted wares. These are smaller than the kilns for heavy goods and are burned to a much lower temperature. Such kilns can be set, burned, cooled and drawn in 24 hours, while the large muffles cannot be turned in less than 10 days.

General kilns for pottery burning are of the open type. The wares are enclosed in saggars which are set over one another in tiers (bungs). Saggars are cases made of refractory clay and suited as to size to the wares they are to contain. The flames and kiln gases pass freely round the saggars and the whole chamber is uniformly heated.

The usual form of kiln is cylindrical with a slightly domed crown. Outside this is the "hovel" or conical top familiar to the inhabitants of pottery towns. The hovel serves the purpose of a chimney, and collects the smoke from a number of apertures in the kiln crown. The fire mouths range in number from 6 to 10 according to the size of the kiln. In the up-draft kiln the gases simply pass up between the bungs of saggars and find a free vent at the top. In the down-draft type the top of the crown is closed and the gases after passing up the walls and under the crown are led down a centre stack and up again through flues arranged for the purpose. The structure of the down-draft kiln is more complicated than the up-draft, but a considerable economy of fuel is effected. The kiln also cools more rapidly.

Kilns for burning bricks follow the same general lines but vary in form. For this purpose the square kiln is among the most popular, being usually operated on the down-draft principle.

Many plans have been devised for the perfect utilization of heat, but none that is entirely satisfactory. One of the best is that of the continuous kiln. This has been applied in Germany to the burning of porcelain, and its use in America increases. The continuous kiln is a long low tunnel built in the form of a parallelogram with rounded ends. This is divided into as many chambers as may be necessary, each chamber having an entrance at each side and two fire mouths. Paper partitions are used in order to secure the correct movement of the draft, and as each successive chamber is filled with ware and the proper dampers opened the heat from the burning chambers is drawn through the unburned brick, bringing them up to a high temperature without any additional fuel. Meanwhile the chambers in which the firing has been completed are beginning to cool and so the work goes on continuously. The economy of the method is very great, but a considerable output is necessary in order to avoid stoppage. Kilns are, for the most part, burned with coal, both hard and soft coals being used. Those in the gas belt are successfully burned with natural gas and in some places oil is used. The temperatures at which different wares are burned are about as follows:

Roofing tile and paving brick	1030°-1070°C
Common brick and drain tile	1090°-1170°C
Porcelain art pottery -- glaze	1150°C
Porcelain art pottery -- body	1230°C
Sewer-pipe and stoneware	1250°-1290°C
Earthenware dishes	1290°-1313°C
Hotel china	1330°C
Bone china	1330°C
Hard porcelain	1390°-1410°C

KILO. See METRIC SYSTEM.

KILOGRAMME, or **KILOGRAM**, a French measure of weight = 1,000 grammes. See METRIC SYSTEM.

KILOLITER, or **KILOLITRE**, a French measure of capacity for fluids, 1,000 litres. See METRIC SYSTEM.

KILOWATT. See ELECTRICAL TERM; UNITS; WATT.

KILPATRICK, Hugh Judson, American soldier: b. Deckertown, N. J., 14 Jan. 1836; l. Valparaiso, Chile, 4 Dec. 1881. He was graduated at West Point in 1861, and in the autumn of that year became a lieutenant-colonel of cavalry. He was appointed a brigadier-general of volunteers in May 1863, and in the following March was active in a raid to Richmond for the release of Federal prisoners. He commanded the cavalry of Sherman's army in its march from Atlanta to Savannah in 1864, and in June 1865 was promoted major-general of volunteers. After the War he was prominent as a lecturer and a Republican political speaker. He was Minister to Chile from 1865 to 1870, and was reappointed in 1881. In 1887 his remains were removed from Chile and interred at West Point. Consult Moore, 'Kilpatrick and our Cavalry' (1865).

KILWA (kēl'wā) **KIVINJE**, kē-vēn'yā, or **QUILOA**, kē-lō'ā, seaport town in Tanganyika Territory. It is situated on the east coast about 180 miles south of Zanzibar, and was, before the outbreak of the European War, the chief port of entry of the German government in German East Africa. At that period its extensive roadstead was frequented by trading vessels from all parts of the world, for its trade and commerce were very extensive. Before the German occupation of the country the city was a place of considerable importance in the native economy, but it was extremely unhealthy for Europeans and not any too sanitary for the natives. The Germans did a great deal to improve the health conditions of the town which they made fairly habitable for white people and blacks alike. All the neighborhood of Kilwa was noted, during the Arab occupation of the coast, as one of the hotbeds of the African slave trade. Kilwa (Kilwa Kisiwani), the centre of these Arab operations, which is some 17 miles further down the coast, has fallen into decay and is almost deserted, and there is little commercial or industrial activity on the island on which it is situated or in the immediate neighborhood. The population of the modern city, which is known as Kilwa Kivinje, is over 100,000.

KILWINNING, an industrial town in Ayrshire, Scotland, quite close to Irvine. It possesses woollen factories, coal mines, iron works, engineering and fire-clay establishments. It is situated in historic ground and the whole neighborhood is rich in Highland and Lowland traditions. Near to the town is Eglinton which possesses extensive iron works and the famous castle of the same name, the scene of the Eglinton Tournament (1839). Kilwinning claims the honor of being the mother of the freemasonry of Scotland. Pop. about 5,000.

KIM, by Rudyard Kipling, ranked by some critics as "the author's highest attainment in

fiction," narrates the colorful adventures of young Kimball O'Hara, son of an Irish soldier in India, reared from babyhood as a w among low-caste Hindus and known among his variegated native acquaintances as "Little Friend of all the World." Kim attached himself, as disciple and protector, to a splendidly wise yet simple old Tibetan lama, who wandered through India in search of a mystic river that is to wash him clean of all earthly sins, sorrows and penalties. The boy's European parentage is discovered, and Kim, with the lama's aid, is sent to school where he is educated with a view to his employment in the British secret service, for which he is peculiarly fitted by his natural gifts and his intimate knowledge of native life. Then, still in his teens, and unofficially attached to the secret service, he resumes his wanderings with the lama through India and far into the Himalayas, where he is instrumental in defeating the machinations of foreign spies among the native princes. On its first appearance in book form, 19 Oct. 1901, 'Kim' was enthusiastically hailed as a marvelous revelation of Hindustan. Thus a reviewer in *The Academy* (London) writes, "'Kim' is hardly a novel. It is a kinematograph of a people, telling what they feel—what they have felt through time, as the effect of that immemorial feeling on the life of to-day." And Edgar Allen Forbes who followed the route of the tale through India declares "'Kim' is to me the best guide book and the most faithful interpreter that a traveler may find in India. No other book that I know of so clearly unfolds that wonderful land and its mysterious customs."

ARTHUR GUTERMAN

KIMBALL, Arthur Lalannc, American writer: b. Succasunna Plains, N. J., 16 Oct. 1856. Educated at Princeton and Johns Hopkins universities, he became a member of the teaching staff of the latter institution for a while, being finally called to the chair of physics in Amherst College in 1891. Among his published works, which are almost altogether on physics, are 'The Physical Properties of Gases' (1890), and 'College Physics' (1911). He died 22 Oct. 1922.

KIMBALL, Heber Chase, American Mormon leader: b. Sheldon, Franklin County, Vt., 14 June 1801; d. Salt Lake City, Utah, 22 Jan. 1868. In 1832 he was baptized into the Church of Latter-Day Saints, in the same year was ordained an elder of the Church by Joseph Smith and in 1835 became one of the 12 Mormon apostles. In 1838 with Brigham Young he led the Mormons from Missouri into Illinois, where they finally settled at Nauvoo, and in 1847 was a pioneer in the exodus to the valley of Great Salt Lake. He was successively chief priest of the order of Melchizedek (1846), a councillor to Young (1847) and chief justice and lieutenant-governor of Deseret.

KIMBALL, James Putnam, American geologist: b. Salem, Mass., 26 April 1836; d. 23 Oct. 1913. Educated at Harvard, Berlin, Göttingen and Freiberg (Saxony, school of mines), he became professor of chemistry and economic geology in the New York State Agricultural College (1861-62), and assistant ad-

king as captain. He took a very active part in the Civil War and was with the Army of the Potomac, serving on the staffs of McClellan, Burnside, Hooker and Meade. At the conclusion of the war he became a mining engineer, serving in the meantime as honorary professor of geology at Lehigh University (1874-85), becoming, upon the latter date, director of the United States Mint (1885-88). He contributed extensively on his special subjects to American and other magazines.

KIMBALL, Martha Gertrude, American philanthropist: b. Portland, Me., 1840; d. 1894. She led a very active life which was marked by charitable impulses. During the Civil War she acted as a nurse with Sherman's army on its march into Georgia. She took a very great interest in the soldiers, and finally became inspector of hospitals. Her first connection with the army in the field was when she accompanied her husband to the front during the early part of the war. The fact that her husband was appraiser of captured cotton, an important position in the army, gave her an opportunity of seeing army life that she could not easily have otherwise obtained without becoming a part of the military organization as she later on actually did. She is credited with being the originator of the Decoration Day idea, which she is said to have suggested to General Sherman, who at once welcomed it and put it into practice.

KIMBALL, Richard Burleigh, American author: b. Plainfield, N. H., 11 Oct. 1816; d. New York, 28 Dec. 1892. He was graduated at Dartmouth College in 1834 and later admitted to the bar; practised his profession at first in Waterford, N. Y., and afterward in New York. He founded the town of Kimball, Tex., and constructed the first railroad in that State, extending from Galveston to and beyond Houston. His publications include 'Letters from England' (1842); 'Cuba and the Cubans' (1850); 'Saint Leger' (1850); 'Romance of Student Life Abroad' (1853); 'Under-Currents of Wall Street' (1862); 'Henry Powers, Banker' (1868); 'To-day in New York' (1870); 'Stories of Exceptional Life' (1887).

KIMBALL, Sumner Increase, organizer of the United States Life Saving Service: b. Lebanon, Me., 2 Sept. 1834; d. Washington, D. C., 21 June 1923. He was graduated from Bowdoin in 1855; studied law and was admitted to the bar in 1858. In 1859 he served in the State legislature and was a member of the committee on judiciary. In 1862 he became a clerk in the second auditor's office in the Treasury Department at Washington and in 1871 was made chief of the Revenue Marine Service. In that position he had occasion to investigate the condition of the government stations on the New Jersey and Long Island coast where surf boats and other apparatus were stored under the charge of a keeper for use in case of shipwreck; he found the property badly cared for and the service inefficient. Obtaining an appropriation from Congress he entirely reorganized the service, and so successfully that it was soon extended to Cape Cod and other points on the Atlantic Coast. In 1878 the Life Saving Service was organized as a separate bureau and was extended to the Pacific Coast and the

Great Lakes. He was made the head of the bureau and introduced many improved methods, including the patrol system and telephonic connection between adjacent stations; he also obtained the passage of the law, to the effect that inspectors, keepers and crews in the service should be appointed on a strictly non-partisan basis "with reference solely to their fitness." He also served as acting register, acting comptroller and acting solicitor of the Treasury, and in 1889 he was the United States delegate to the International Marine Conference. He published 'Organization and Methods of the United States Life Saving Service' (1889), the most complete monograph on the subject, and 'Joshua James—Life Saver' (1909).

KIMBALL, William Wirt, American naval officer: b. Paris, Me., 9 Jan. 1848. Graduated from the United States Naval Academy (1869), he entered at once upon military life and was promoted as rapidly as the service permitted, becoming captain (1905) and rear-admiral (1908). He performed a great deal of service in almost every water where the United States fleet is stationed. Among his other experiences he was one of the first of American naval officers to see service on an American torpedo boat. Aside from this he gave much attention to the development and perfection of machine and magazine guns and submarines. For this reason he was given command of the American Atlantic torpedo boat flotilla during the Hispano-American War. After the close of the war he was a member of the boards of construction, examination and retirement, and he was in command of the Nicaraguan expeditionary squadron (1909-10), notwithstanding the fact that, by law, he was automatically retired in 1909. Died 28 Jan. 1930.

KIMBERLEY, kím'ber-lē, John Wodehouse, EARL OF, English statesman: b. London, 1826; d. 1902. Educated at Oxford, he succeeded his father as third Baron Wodehouse while still in his teens, and he soon entered public life as Under Secretary of State for Foreign Affairs (1852-56 and also 1858-61). The intervening time he spent as encumbent of the Russian Embassy. He was special envoy to Copenhagen to represent the government in the Schleswig-Holstein affair (1863), and on his return to England the following year he was appointed Under Secretary at the Indian Office, a position he soon relinquished to become Lord Lieutenant of Ireland (1864-66). He was recalled to England by the Gladstone government as Lord of the Privy Seal (1868-70) and Secretary for the Colonies (1870-74). The latter position he again held (1880-82) until he was appointed Secretary of State for India (1882-86), a position he was again called to occupy (1892-94), but relinquished to become Foreign Secretary in the Rosebery Cabinet (1894-95). Two years later he became leader of the Liberals in the House of Lords, and in 1899 he was elected chancellor of London University. In 1866, at a comparatively young age, he was raised to the dignity of Earl of Kimberley, for services rendered the empire. Kimberley was a man of brilliant executive gifts and his work in Ireland and as Colonial Secretary and Secretary of State for India redounded to his credit and that of the British government.

KIMBERLEY, Australia, a northern district of Western Australia, brought into notice by the discovery of gold fields in 1886. It contains immense tracts of excellent pasture and much land suitable for cultivation. The chief port for the district is Derby, on the Fitzroy River, near King Sound. The district, which has an area of 144,000 square miles, is divided into East and West Kimberley. It is separated from the more populous part of the state by the Great Sandy Desert.

KIMBERLEY, Union of South Africa, town of Cape of Good Hope province, 647 miles by rail northeast of Capetown. It lies at an altitude of 4,012 feet above sea level and was named for the first earl of Kimberley (q.v.). Founded in 1870, it owes its existence and prosperity to the mining of diamonds, first discovered in the area on the Du Toits Pan and Bultfontein farms. Lime, salt, and gypsum are also found in the neighborhood, and the town is the center of an important dairying and agricultural district. During the South African War a British force was besieged in Kimberley from Oct. 14, 1899, till Feb. 15, 1900, when it was relieved by Gen. Sir John D. P. French (later the 1st earl of Ypres). Pop. (1946) 74,847.

KIMCHI or **KIMHI**, kīm-kê, David (called RE-DAK, rē-dák', from the initials of his name, Rabbi David Kimchi), Hebrew philologist: b. Narbonne, Provence, France, c. 1160; d. c. 1235. He was the most learned member of a medieval Jewish family of Hebrew grammarians and Biblical scholars. Besides Biblical commentaries, he wrote in Hebrew *Sefer ha-Shorashim* (Book of Roots); *Sefer Miklol* (Book of Completeness); and *Et Sofer* (Pen of the Scribe), which treated of the Massora and the Hebrew accents.

KIMMEL, kīm'el, Husband Edward, United States naval officer: b. Henderson, Ky., Feb. 26, 1882. Graduating from the United States Naval Academy in 1904, he was commissioned ensign in 1906, and in the course of the next 30 years served the navy in many capacities; during World War I he was executive officer of the U.S.S. *New York*, of the Sixth Battle Squadron, on patrol duty in the North Sea. Promoted rear admiral in 1937, after three years of shore duty as budget officer of the navy he was given command of Cruiser Division 7, which he took on a goodwill cruise to Latin American republics. In 1939 he became commander of the Cruisers Battle Force, of the United States Fleet, and on Feb. 1, 1941, having been promoted admiral, he was appointed to command of the Pacific Fleet. He had been placed above 46 higher ranking officers in receiving this topmost command of the United States Navy, and he was at Pearl Harbor, Hawaii, with most of his ships when the Japanese made their surprise attack on Dec. 7, 1941. Ten days later he was relieved of his post, and following the report of a board of inquiry on Jan. 24, 1942, that he and Lieut. Gen. Walter C. Short, commander of the Hawaiian Department of the Army, had been guilty of "dereliction of duty" the two men were retired. A Congressional Investigating Committee reported on July 20, 1946, that "the errors made by the Hawaiian commanders [Kimmel and Short] were errors of judgment and not derelictions of duty."

KIMONO, loose robe of the Japanese. The sleeves are cut in one piece with the rest of the gown, which is embroidered with characteristic designs. Decorative and comfortable, it has been adopted by women in Western countries for lounging.

KIN, persons related by blood. In common law, next-of-kin is the nearest blood relation of a deceased person. The method is to count one degree for each link in the chain, which starts from the deceased person. Thus, father and mother, and all children, are in the first, while grandparents and grandchildren, brothers and sisters, are in the second degree of kin.

KINABALU, kīn'ū-bū-lōō', loftiest mountain in Borneo, located near the northwestern extremity of the island, in the British colony of North Borneo. The height is 13,451 feet.

KINCARDINE, kīn-kār'dīn, Canada, town in Bruce county, Province of Ontario, situated on Lake Huron north of Goderich. One of the most thriving towns of the western Ontario peninsula, it is a port of entry and has extensive fisheries, knitting and spinning mills, and furniture factories. Pop. (1941) 1,810.

KINCARDINESHIRE or **KINCARDINE** (known also as **THE MEARNS**), Scotland, an eastern maritime county north of Angus and south of Aberdeenshire; it has about 32 miles of bold and rugged coast on the North Sea. The Grampians occupy the west and central portions of the county, which has an area of 382 square miles. Agriculture is pursued in the valleys and around the coast, and there are deer forests and moors. Fishing, both river and sea, is important. Stonehaven (pop. 1947, 4,551) is the principal town. Pop. (of county, 1931) 39,804.

KIND, kint, Johann Friedrich, German poet, dramatist, and novelist: b. Leipzig, 1768; d. 1843. He is best known as the author of the librettos for *Das Nachtlager von Granada*, to the music of Konradin Kreutzer; *Der Holsdieb*, to the music of Heinrich Marschner; and *Der Freischütz*, to the music of Karl M. F. E. von Weber.

KINDERGARTEN, The, is an educational program for children between the ages of four and six. In 1951 such programs were accessible through the public schools to slightly more than half the five-year-old population of the United States. The ratio of kindergartens to the number of children was greater in large cities than in small cities and in the northern part of the country than in the southern.

Origin and Development in Europe.—Credit for the origin of the kindergarten is given to Friedrich Froebel (1782–1852, q.v.), the first educator to combine a theory of preschool education with practical methods for its operation. Apparently, Froebel was not much affected by the contemporary development of infant schools in England under the leadership of Robert Owen (q.v.), nor by the French *salles d'asile* sponsored by such philanthropists as Jean Denis Marie Cochin. Such institutions had been founded primarily to prevent neglect of very poor children, while Froebel was concerned with the early education of all children. He was, however, influenced by John Amos Comenius, who as early as 1628

and emphasized the importance of early training; Jean Jacques Rousseau, with whose faith in the inherent goodness of the child's nature Froebel appears to have agreed; and by Johann Heinrich Pestalozzi (q.v.), who formulated definite methods of teaching young children and with whom Froebel studied. Believing in the inherent worth of the child's "creative self-activity," Froebel stressed the importance of plays and games. At the same time he developed a mystical conception that the child had within him latent understandings of the great truths of life and nature which could be awakened symbolically. Thus the "gifts and occupations" which became part of his method were not merely toys and games but reflections of the plan of the universe, to be used in a precise and ritualistic order.

By 1872, Froebelian kindergartens, promoted by Baroness Berta von Marenholtz-Bülow, had spread throughout Europe. In France, Froebelian methods had effected some reforms in the *écoles maternelles*, but these were brought to an end by the Franco-Prussian War and the attendant bitterness toward anything of German origin. In Italy, from 1907 work with young children was influenced by the educational experiments of Maria Montessori (q.v.), whose emphasis on child study, on equipment designed for "training of the senses," and on the value of the child's participation in the activities of real life was eventually reflected in kindergarten programs in other European countries and in the United States. In England the few kindergartens established under Froebelian influence were forerunners of the nursery school movement which developed there just before World War I.

Development in the United States.—Froebel's ideas were first introduced in the United States in private schools founded by German immigrants after the revolution of 1848. The first American kindergarten for English-speaking children, and the one which most directly influenced the kindergarten movement, appears to have been that established by Elizabeth Palmer Peabody (q.v.) in Boston in 1860. Following the principles established by Froebel, a training school for kindergarten workers was opened several years later. With it began the pattern which was to shape kindergarten practice for some time. Young women concerned with young children enrolled in the new school, which familiarized them with the materials to be used in the kindergarten, taught them its songs and games, and endowed many of them with a zeal for accomplishment which has perhaps never been matched by any other educational endeavor. Some of these early kindergartners went into slums to establish free kindergartens supported by churches and philanthropic organizations, some worked in private schools, and the most inspired eventually organized their own training schools.

In 1873 the first kindergarten in a public school was opened in St. Louis, Mo., by Susan Elizabeth Blow (q.v.). The period between 1870 and 1890 saw a rapid increase in the number of kindergartens, many of them operated by free kindergarten associations and a few being accepted in the public schools. In the following decade a number of the philanthropic kindergartens were incorporated in public school systems. Throughout these years, however, the kindergarten was regarded as a unique educational institution. Although it might be housed in a public school, it had little in common with it. Even

when the kindergarten teacher's training was broadened to include music, art, physical education, and nature study, she received this training not in a normal school or college but in a very specialized, privately supported kindergarten training school.

The relative insulation of the kindergarten and the dedication of its leaders to the principles and methods of Froebel combined to make its program rigid and resistant to change. As early as 1890, however, new concerns for children, their welfare, and their education were challenging the traditional kindergarten. Anna Bryan, who had opened a training school in Louisville, Ky., and her student, Patty Smith Hill, were among the first to recognize that strict adherence to Froebelian practice with its long periods of sitting still, fine handwork, and lack of opportunity for experimentation must exert a stultifying effect on the developing physical and mental powers of the young child. They were supported in their views by the growing child study movement led by Granville Stanley Hall, and by the newer educational philosophy advanced by John Dewey (q.v.). The latter identified learning with the child's actual experiencing of the world around him and saw the teacher as a guide arranging an environment in which the child, exercising his curiosity and powers for observation and experimentation, could grow in understanding.

As a result of these influences, life in the kindergarten became much less precious. Children moved about more freely and were encouraged to vigorous physical activity with swings, slides, seesaws, and jungle gyms. They no longer spent long hours making miniatures from paper and cardboard, but instead were aided in constructing objects useful for their play from sturdy materials. There was also greater regard for rest and nutrition. Such changes developed slowly, however, and evidences of the traditional forms lingered on into the 1930's.

From 1920 the kindergarten began to be subjected to a new pressure, that of the emerging nursery school movement. Nursery schools had originated in England, where they were designed to promote the physical health of children too old to be supervised by baby health centers and too young to benefit from the so-called infant schools. In the United States the nursery school idea was taken over by psychological research centers, which began an intensive study of the mental, social, emotional, and physical development of young children. The effect on the kindergarten was threefold:

(1) A variety of child development information, much of which supported the theories of those who believed that children needed a vigorous program, was made available to kindergartners.

(2) The nursery school program itself showed how an informal way of working with youngsters encouraged spontaneity and creativity.

(3) Although the nursery school included children younger than those in kindergartens, the two programs often overlapped at the four- and five-year-old levels, making a comparison possible.

The more progressive kindergartners supported and welcomed the developing nursery schools. Occasional kindergarten training schools began to include courses for nursery school teachers. In some instances, as kindergartens were taken over by the public schools, the free kindergarten as-

sociations began to operate nursery schools. On the other hand, there were kindergartners who feared the encroachment of the nursery school, and who felt that children who had known its freedom and independence might be difficult to manage in the more patterned program of the kindergarten and perhaps bored with its offerings. Although this attitude persisted for a number of years, it gradually diminished as studies of children stressed continuity of development, as colleges of education added nursery school and kindergarten groups to their demonstration programs, and as an increasing number of public schools sponsored federally financed nursery schools.

Very much as some kindergartners were slow to accept the nursery school, so many first-grade and primary teachers resisted the kindergarten. The full incorporation of the kindergarten in the public school program developed very slowly. The process was one by which the kindergarten influenced the primary grades in certain ways and was in turn modified by them.

Even when the kindergarten remained aloof from the rest of the school, it played some part in changing the traditional elementary school program. Its bright, spacious room, with toys and gay picture books, plants and pets, time for games and singing, afforded striking contrast to the traditional first grade with its screwed-down desks, dull primers, and chalk dust. Inevitably, good first-grade teachers began to ask why such a pleasant atmosphere was not equally desirable for their six year olds. In addition, the kindergarten, more than any other level of education, demonstrated the meaning of constructive home-school relationships. The kindergartner spent much of her time in home visiting. She knew rather intimately the backgrounds of her children, and her sympathetic interest in them and in their parents was an asset to her work. Many kindergartens organized mother's clubs and a variety of child study programs.

As kindergartens became an integral part of public school programs, they were able to reach an increasing number of youngsters, enrollments attaining a high point of 723,443 children in 1930, but they also were involved in the same problems as the schools. Some were closed during the depression years (enrollments dropped to 601,775 by 1934 and did not reach the 700,000 mark again until 1944). In other instances school systems retained the kindergartens but instituted double sessions whereby one teacher met with one group in the morning and another in the afternoon. This practice seriously limited work with parents. The use of the same space and equipment for two different groups of children also tended to disturb day-to-day continuity in program. After World War II even more serious problems of overcrowding arose. Many teachers, unable to give individual attention to large groups, found themselves carrying on programs with the high organization and formality characteristic of the traditional kindergarten.

Despite postwar difficulties in maintaining existing school programs, the eventual responsibility of public education for the improvement and extension of kindergarten facilities received increasing acceptance. Federally subsidized nursery school and child care center programs developed to meet the emergencies of depression and war had shown many parents and communities the importance of the early years in the lives of

children. Research had indicated that to a large extent the patterns for healthy emotional and social development are established before the age of six. Moreover, young children, exercising their curiosity and explorative powers, learn much that is essential to their eventual understanding of the world in which they live. Some children can find in their home and neighborhood setting companionship with their peers, understanding guidance in the normal problems of growing up, and sufficient space and equipment to challenge and satisfy their expanding mental and physical powers. There are many others, however, who lack some or all of these essentials to healthy development. For them, educational programs to supplement home living are essential. Such thinking was inherent in the recommendation of the Educational Policies Commission of the National Education Association and the American Association of School Administrators in 1945, favoring "the extension of school services downward to at least the third or fourth year." A similar position was taken in 1950 by the Mid-Century White House Conference on Children and Youth, which recommended "that as a desirable supplement to home life, nursery schools and kindergartens, provided they meet high professional standards, be included as part of public educational opportunity for children."

The availability of kindergartens is dependent on adequate financial support. Laws in some states have prohibited the use of state education funds for children below first-grade age. By 1945, however, two thirds of the states had authorized use of state funds for the support of kindergartens. Kindergartens were maintained in 42 states, with local tax levies providing support where state funds were not available.

In several states there has been a definite trend toward the inclusion of children under six in state educational planning. In many instances this has meant providing guidance for the integration of kindergarten and primary programs. Some states have made an effort to continue the wartime programs which included children of nursery school as well as of kindergarten age and to interpret them to elementary school workers.

The tendency to think of the kindergarten-primary program as continuous has been reflected in school organization. The "primary" or "early childhood" unit which includes the kindergartner as well as the first three grades of the elementary school has become increasingly common. Such organization recognizes the many characteristics which children from five to eight have in common and provides for closer understanding among their teachers. In some school systems teachers may stay with the same group of children as they move through kindergarten and first grade and occasionally into the second and third grades. Some schools have experimented with two year kindergarten programs for children who seem to need a considerable amount of informal experience before entering first grade. These programs have been given such titles as "kindergarten extension," "junior primary," and "transition unit," but have tended to resemble kindergarten more than the traditional first grade.

The preparation of modern kindergarten teachers usually includes experience in the primary grades and sometimes in nursery school. By 1948 special certification for kindergarten-primary teachers had been established in Arizona, Delaware, Illinois, Ohio, Pennsylvania, South Dakota,

KINDERGARTEN



Constructing with a purpose



The appeal of good books.

KINDERGARTEN

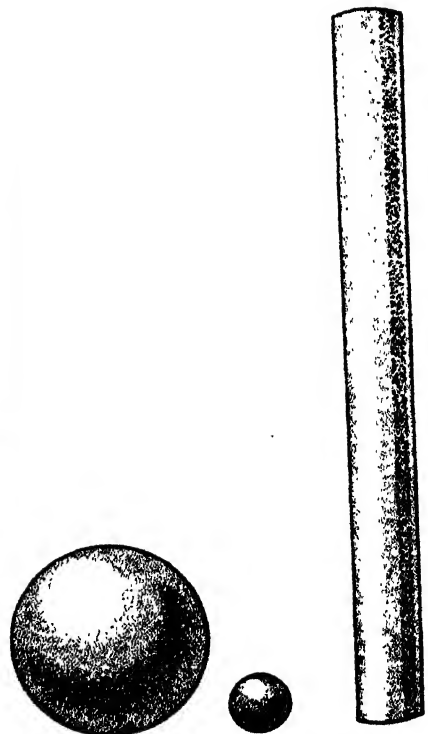


Out-of-door interest in the spring.



Frederic Lewis

Woodwork encourages thinking.



Comparison of small ball and block of the past with the large ones of today.

nd Wyoming; New Hampshire and the District of Columbia provided for the inclusion of kindergarten in an elementary grades certificate; and Connecticut had a special kindergarten certificate.

The Modern Kindergarten Program.—Although kindergarten programs vary widely, depending on the age of the children at entrance, the number of children in the group, and the equipment and facilities available, general guidelines for their operation have been established. The Association for Childhood Education, formed in 1930, has been particularly active in furthering understanding of good kindergarten programs.

The age of entrance to the modern kindergarten may be either four or five years. The admission of children who are closer to their fourth than to their fifth birthday necessitates a two-year program, since the aim of early entrance to school is not to begin first-grade work at a younger age, but to see that children have had a rich and satisfying background when they do begin such work. The kindergarten program for four year olds is usually slower paced than that for five year olds, provides a relatively greater amount of time for individual and small group activities, and often involves less extensive neighborhood exploration.

In the modern kindergarten program one enters to every 10 to 15 four year olds and to 15 to 20 five year olds is recommended. In small group, in which the teacher can know individual well, the young child gains confidence and skill in establishing happy, friendly relations of getting along with other people. Such ability is not expected to blossom immediately upon school entrance, and provision is usually made for the child to become acquainted with his school and his teacher in a gradual fashion. Sometimes the child visits the kindergarten in the spring before he enters in the fall, or the opening days are staggered so that not all the children enter at the same time, or provision may be made for parents to stay with their children until their sense of newness wears off.

The modern kindergarten is housed in a spacious, light, and airy room with easily accessible toilet and washing facilities. Space for the child's outdoor clothing is so located as to make the teacher's supervision of dressing and undressing simple and informal. During the day the room may undergo many changes. There are times when all the children may be sitting around the teacher, either in their chairs or on the floor. Other times they will be working and playing in various areas of the room. Occasionally the room will be cleared for dancing and body movement.

When lunch is served, all will be seated at tables. Sometimes cots are set up. In one corner of the room there is likely to be a housekeeping corner. Here the children play at being parents, caring for their doll babies, cooking, eating, cleaning, entertaining, and strengthening their understanding and feeling for family living. In another area low cupboards may be filled with blocks with which the children can lay out elaborate schemes of streets or roads, homes, trees, and farms—whatever they have observed in the world has become important to them. Using small blocks, trucks, tractors, and other toy accessories, the children here work out in their play some of the relationships between people and their jobs which are important to an eventual understanding of the real world surrounding them. Often a carpentry area is provided near the block section. Here,

under close supervision, children not only find emotional release in vigorous sawing and hammering, but also begin to develop a sense of appreciation for good craftsmanship. Somewhat away from the main bustle of the room big sheets of paper, good-sized brushes, and bright poster paints are available. Some kindergarten children revel in colors, the slap of the brush on the paper, the intricate designs that emerge as they work; others struggle to portray something they have seen. Many find in painting a means of expression for feelings which cannot be put into words. Other art media include finger paint, clay, crayons, and bright-colored paper for cutting and pasting. At this level of development some children are still in the manipulative and exploratory stages of using art materials; others may begin to ask for help with techniques. Characteristic of the modern kindergarten is its abundance of attractive books. The children enjoy looking at them and like to listen to the teacher read them. Sometimes two or three children sit together and pretend to read to each other. Not all the books are story books; many illustrate aspects of living which not all the children could have experienced directly.

The budding curiosity of the kindergarten child demands many sources of information to satisfy it. For this reason, the modern kindergarten offers children many opportunities for observation of simple scientific phenomena. They collect various kinds of rocks, observe the growth of plants, take care of pets, experiment with magnets, and test the possibilities of pulleys, levers, and other elementary machines. As they become accustomed to each other and learn acceptable group behavior, they carry their explorations outside the classroom, going on short excursions to visit places of interest in their neighborhood, to see a railroad station, a food market, or perhaps a ship in dock. Even when there are no trips to be made, good kindergarten living is not confined within the four walls of a classroom but includes provision for vigorous outdoor play. Safe places on which to climb—ladders, big boxes and boards, as well as a jungle gym; smooth surfaces for wagons and tricycles; grassy plots for running and rolling; sandboxes or pits for digging are found in the play yard adjacent to the well-equipped classroom.

The daily program varies somewhat with the age and experience of the children and with the length of time they are in school. It begins with an informal health inspection in which the teacher notes whether there are any children with apparent symptoms of impending illness. The day continues with the alternation between quiet and vigorous activity which is essential to the well-being of the young child. Thus, a work period in which children have been building, painting, or playing in the doll corner may be followed by a group discussion, a story, a singing time, or by such sedentary occupations as looking at books, working puzzles, drawing, or pasting. Provision is also made for a full release of energies in outdoor play, dancing, and rhythms.

The program also provides for a variety of experiences to accustom the child to life in society. There is opportunity for each child to follow his own choices and to work or play by himself, as when he looks at his favorite picture book or sits down for a moment to play with the turtles. There are other times when he enjoys the companionship of two or three other

children as he helps to put a roof on the garage they have made, or tries to climb above them on the jungle gym. There are still other times when he senses his role in the total group, as when he must wait his turn to tell about a trip he has made. There are many times when he must share his teacher, yet now and again she is able to sit by him while he dictates a story or poem he has made up or explains to her what he would like to do with the two pieces of wood from which he plans to make a boat.

The modern kindergarten program likewise attempts to maintain a balance between expression of feelings and the restraints necessary to peaceful group living. That it is not always easy to wait one's turn; that to have a laboriously built garage carelessly toppled over can be a real tragedy; that there are days on which nothing goes right; that children have strong feelings about these and many other matters—all these are accepted as a matter of course, and children are not censured for having such feelings. Rather they are helped to learn how to find acceptable ways of dealing with them.

Since the modern kindergarten conceives its function to be that of supplementing the home life of young children, its program may be adapted to the kind of living common to the neighborhood it serves. Some cities have followed a policy of providing full-day programs in schools located in congested areas. Where children are undernourished and homes are crowded, the program which includes a hot noon meal and an afternoon nap has much to offer. Such a program has also been adopted in certain more privileged communities in which it has been felt that the more relaxed atmosphere prevailing in the longer day results in more effective learning. A similar program has also been necessary in consolidated rural schools to which children are brought a considerable distance. A number of authorities however, have questioned the wisdom of long bus trips for young children, and have suggested that early childhood education units for kindergarten and primary grades be established on a smaller neighborhood basis than has been customary in many consolidation plans. Others have proposed that mobile units take kindergarten programs into rural neighborhoods which have few services for preschool children.

Increasingly schools and parents have recognized that the education of young children is a joint responsibility. It is at the kindergarten level that cooperative efforts are most easily begun. In a good program the teacher has time to become acquainted with the parents as, or even before, the child enters school. Periodically she meets with each child's parents to discuss his progress at home and at school. In a number of school systems such informal conferences have replaced report cards. Parents are also invited to observe and participate in the kindergarten program. In many kindergartens parents and teachers have organized child study groups. From such experiences parents often gain new perspective on their youngsters' behavior, and a healthy mutual respect between home and school is promoted.

Contribution to Later School Success.—As early as the 1920's studies showed that children who had had kindergarten experience made better progress in school than those who had not. In the 1930's studies of the process of learning to read suggested that the apparent superiority of

kindergarten children might be a matter of their having developed greater "readiness" for formal reading instruction because of having had more experience in following the teacher's direction, in communicating with other people, and in looking at and talking about books and pictures. Some authorities suggested that the primary job of the kindergarten might be to prepare children for first-grade reading instruction. Others noted wide individual differences in the age at which children were successful in beginning reading and concluded that success was largely dependent on the attainment of a certain degree of mental maturity rather than on the child's experiences. As understanding of child development has deepened, it has become apparent that both the child's rate of development and his experience are important factors in his interest and ability in reading. A kindergarten provides a living situation in which there are many books, and in which situations arise necessitating some use of reading: a recipe is used for cookies; the third grade sends an invitation to a party; a child brings in an insect which can be identified only by consulting a science book. In such an environment some children spontaneously develop some reading abilities and begin to recognize some words and phrases; others are too busy working out social relationships and dealing with concrete problems to pay much attention to reading. All, however, gain some understanding of the uses to which reading can be put and some sense of its importance in modern living. Equally important is the fact that all are developing the concept essential for understanding printed language. It is in these ways that the kindergarten contributes most to the child's reading abilities. The modern kindergarten program recognizes this and tries to give each child a variety of experience calculated to enhance his total living and growth. It does not emphasize reading "readiness" at the expense of other aspects of the child's development. In the long run, the contribution of the kindergarten to school progress lies less in its specific training than in the fact that it has helped each child to have successful years of being four and five and has thus given him a good start.

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KINDI, al- (Arab. ABU-YŪSUF YA'QŪB IBN ISHĀQ AL-KINDI), Arab philosopher: b. Al Kul 9th century A.D. He was well educated at Basra and Baghdad through the efforts of his father.

was Governor under two famous Arabian rulers, Mahdi (775-85) and Harun al-Rashid (80-809). He was a very prolific writer and credited with having written over 200 treatises on philosophy and science, over the whole of which as known in his day he wandered. He was a very clever and original thinker and even to-day, after a lapse of nearly 200 years, his name stands high among the Arabs. Many of his works are now only a name, having long since been lost; yet some relating principally to astrology and medicine, remain to attest his worth as a philosopher and original thinker. Probably numbers of his works disappeared when his library was seized during the reign of Motawakkil (847-61). Consult De Boer, 'Geschichte der Philosophie im Islam' (Stuttgart 1901); Flügel, 'Al Kindi genannt der Philosoph der Araber' (Leipzig 1857); Nagy, 'Die philosophischen Abhandlungen des al-kindî' (Münster 1897).

KINEALY, kī-nē'li, John Henry, American engineer and educator: b. Hannibal, Mo., 8 March, 1864. Graduated from Washington University as a mining engineer, he became instructor in that institution (1886-87); professor of agriculture and mechanics in the College of Texas (1887-89); professor of agriculture in the North Carolina College of Agriculture and Mechanical Arts (1889-92); and professor of mechanical engineering in Washington University (1899-1902). On the latter date he retired from college work and became consulting and mechanical engineer, first in Boston (1902-04) and then in Saint Louis. He invented a number of noteworthy devices such are in general use. Among his published works are 'Steam Engines and Boilers' (1905), 'Charts of Low Pressure Steam Heat' (1899); 'Slide Valve' (1899); 'Centrifugal Fans' (1905); 'Mechanical Draft' (1906); and numerous magazine articles on similar subjects. He died, 6 May 1928.

KINEMATICS OF MACHINERY. Mechanism may be defined as the study of motion of the circumstances which influence or affect it. The study of motion alone is a branch of geometry in which the element of time enters. Ampère, 'Philosophie des sciences' (1843), due to this geometry of motion the name *kinematics*; Reuleaux, 'Theoretische Kinematik' (1875) and others before him called it *phoronomics* but this term has not been accepted in mechanics. *Kinematics of machinery*—also called *kinematics of mechanism*, theory of mechanism, applied or technical kinematics—is that phase of the subject which is useful in engineering. It deals with the motions of a complex deformable system subjected to such constraints as will make the motion unique or determinate. According to Koenigs, 'Introduction à une théorie nouvelle des mécanismes' (1905), it is the study of the constraints in machines, a machine being an assemblage of resistant bodies (rigid, flexible or fluid) under mutual constraint upon which force may act. The methods necessary for the mathematical, as distinguished from the graphical, solution of the most complicated problems were known long before kinematics existed as a separate science. The first attempt to separate kinematics from mechanics in general was made by Monge in 1794; his program was elaborated

and published in 1808 by Lanz and Bétancourt, 'Essai sur la composition des machines.' Their system aroused interest, but whatever benefit to the science may have accrued through this stimulus was certainly outweighed by the harm that arose through emphasizing the idea that it was more the province of kinematics to classify and describe machines than to devise simple methods of finding velocities and accelerations. This point of view was strengthened by Willis, who published his famous 'Principles of Mechanism' in 1841. To judge from the 20-page preface to his second edition (1870) Willis regarded classification as of first and last importance. Nevertheless he gave proper kinematic descriptions of an enormous number of mechanisms, was the first to investigate velocity ratios—the ratio of the velocity of the driver to that of the follower—and occasionally improved methods of designing and calculating. It is not easy to-day to understand how Willis exerted so deep an influence for a generation. When one considers the brilliant work done in mathematical kinematics by Euler, Lagrange, Laplace, Poisson, Poincaré and Coriolis, it is not unfair to say that Willis was as antiquated in his own time as he is now. The next noteworthy book in the development of kinematics is Reuleaux, 'Theoretische Kinematik: Grundzüge einer Theorie des Maschineneuwesens' (1875), English edition by Kennedy in 1876. To Reuleaux classification is still of fundamental importance. Willis classifies machines according to the way they transmit motion, for example, by rolling contact, sliding contact, wrapping connectors (belts and chains), linkwork and ratchets, each being subdivided according to whether the velocity ratio or the direction of the velocity is constant or variable. Reuleaux on the other hand examines the elements of which machines consist and finds that they always occur in *pairs*, a number of pairs being connected to form a *chain*. In kinematic pairs there may be relative sliding (e.g., crosshead and guide), turning (hinge or pin joint) or sliding and turning (screw and nut). If the contact is between surfaces, as in these examples, the pair is called *lower*; if there is line contact, as in gear wheels, the pair is *higher*. Reuleaux showed that many different mechanisms may be made from the same kinematic chain by holding different elements or links fixed. Neither Willis nor Reuleaux had an efficient method of finding velocities in a mechanism; neither attempted to find accelerations and neither gave sufficient emphasis to the fundamental problem of kinematics, namely, to devise general methods for the determination of velocities and accelerations. The most important treatise on kinematics from this point of view is Burmeister's 'Lehrbuch der Kinematik' (1888); this is decidedly superior to anything written before that time and has not yet been surpassed.

Fundamental Theorems.—Three theorems suffice as a basis for the analysis of velocity and acceleration in mechanisms. On account of their importance a rigorous mathematical proof will be given. It is customary to base their derivation on the *postulate of superposition* which states, briefly, that kinematic vectors may be superposed according to the parallelogram law; this method is not convincing when

applied to accelerations and sometimes leads to serious mistakes

In Fig. 1 it is required to find the velocity of any point P of a rigid body moving in a

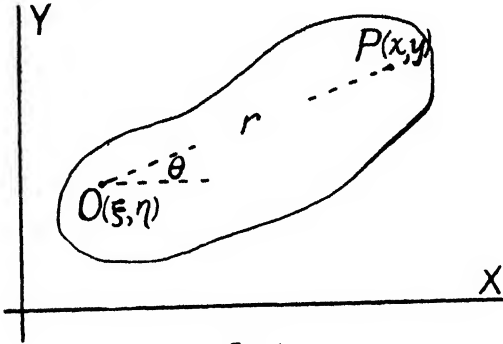


FIG. 1.

plane, the velocity of O and the angular velocity ω of the body being given. The body has three degrees of constraint specified by the co-ordinates ξ, η, θ , i.e., given values of them will fix its position. If a constraint is removed by permitting the corresponding co-ordinate to vary, the body has one degree of freedom. In the following equations, one dot over a letter will denote the first time-derivative. From Fig. 1

$$x = \xi + r \cos \theta, \quad y = \eta + r \sin \theta;$$

hence since r is constant and $\dot{\theta} = \omega$

$$\dot{x} = \dot{\xi} - r\omega \sin \theta, \quad \dot{y} = \dot{\eta} + r\omega \cos \theta \quad \dots (1)$$

where $(\dot{\xi}, \dot{\eta})$ and (\dot{x}, \dot{y}) are respectively the velocities of O and P with reference to the fixed axes xy and are thus the so-called absolute as distinguished from the relative velocities. $r\omega$ is that part of the velocity of P which is due to the rotation of P about O ; it is normal to OP and is the relative velocity of P with respect to O . Equations (1), giving the components of the relative and absolute velocities of O and P , state that P has two superposed velocities: the absolute velocity $(\dot{\xi}, \dot{\eta})$ of O and the linear velocity r due to the rotation of P about O . Hence

THEOREM I.—The velocity of any point P of a rigid body having plane motion is the resultant of the velocity of any other point O and the linear velocity due to the rotation of P about O . Let u and v be the absolute veloc-

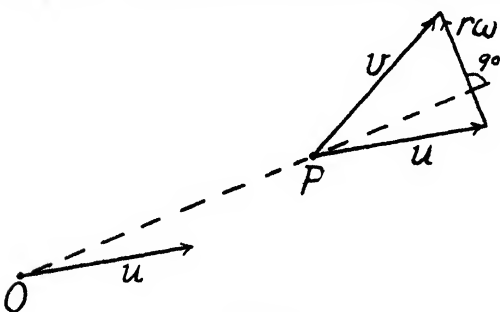


FIG. 2.

ities of O and P ; then Fig. 2 shows v as the resultant of u and $r\omega$. In symbols

$$v = u + r\omega, \text{ vectorially.}$$

This theorem is the basis of the graphical method of velocity diagrams devised by R. H.

Smith (Royal Society of Edinburgh, 1885) and now in general use. Consult also his 'Graphics' (1889); and Burmester's 'Kinematik'

By differentiating equations (1) and denoting the angular acceleration ω by a we find

$$\begin{aligned} \ddot{x} &= \ddot{\xi} - r a \sin \theta - r \omega^2 \cos \theta \\ \ddot{y} &= \ddot{\eta} + r a \cos \theta - r \omega^2 \sin \theta \end{aligned} \quad (2)$$

where $(\ddot{\xi}, \ddot{\eta})$ is the absolute acceleration of O , $r\omega^2$ the radial acceleration, directed from P to O , due to angular velocity; ra is the tangential acceleration normal to OP due to angular acceleration. Hence

THEOREM II.—The acceleration of any point P of a rigid body having plane motion is the resultant of the acceleration of any other point O and the linear accelerations of P due to the angular velocity and acceleration of P about O . ω and a specify the absolute rotation of the body. The theorem may be expressed in a vector equation; if a and a' are the accelerations of P and O

$$a = a_0 + ra + r\omega^2, \text{ vectorially.} \quad \dots (3)$$

Theorem II is the basis of all graphical solutions. It can be put into another form. In Fig. 3 let the point C be fixed and let O be a hinged or pin-connected joint so that CO and

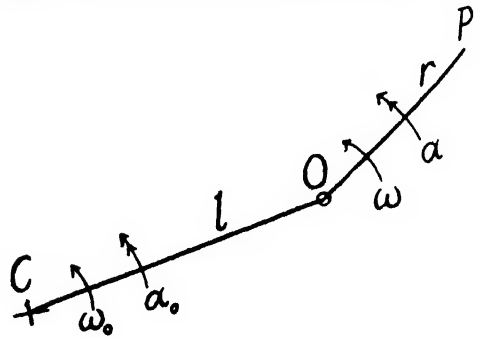


FIG. 3.

OP may have independent angular motions. If ω_r and a_r specify the relative motion of r with respect to l and if ω and a are the absolute motions of r , and ω_0 and a_0 those of l ,

$$\omega = \omega_0 + \omega_r, \quad a = a_0 + a_r$$

all quantities being measured in the same sense. By substitution in the previous equation and putting $r\omega_r = v_r$ we get

$$a = (l+r)a_0 + (l+r)\omega_0^2 + ra_r + r\omega_r^2 + 2v_r\omega_0 \quad (4)$$

The plus signs indicate vector addition; for example, $l+r$ is CP . Therefore $(l+r)a_0$ is normal to, and $(l+r)\omega_0^2$ along, CP ; $ra_r + r\omega_r^2$ is the acceleration of P relative to the system CO . The term $2v_r\omega_0$ is called the Coriolis acceleration after Coriolis, who is 1835 discoverer of the theorem of which equation (4) is a special case. Since it came from $r(\omega_0 + \omega_r)$ it is directed from P toward O ; if ω_0 and ω_r are opposite it points from O toward P . Hence we have

THEOREM III.—The acceleration of any point P of a body in motion with respect to a moving system is the resultant of (1) the acceleration of P regarded as fixed to the moving system, (2) the acceleration of P relative to the moving system, (3) the Coriolis acceleration $2v_r\omega_0$ where v_r is the relative velocity of P and ω_0 the absolute angular velocity of the moving system.

ω_0 is directed toward the centre of curvature of the relative path of P unless ω_0 and ω_r be opposite. For other demonstrations consult F. Deimel, *Mechanics of the Gyroscope* (1929); Hurmester was the first to apply the theorem to mechanisms.

Analysis of Velocities.—The following are practically all of the typical velocity problems occurring in the theory of plane mechanisms:

I. Given the velocity of one point of a rigid body, to find the velocity of another point constrained, as by a guide, to move in a given manner.

Fig. 2 illustrates this case; u is the given velocity, and the direction but not the magnitude of v is known; the construction determines v completely. The drawing of the two parallels u may be avoided by noticing that u and v have equal projections on the line between the two points; this means that the line is extensible.

II. Two rods AP and BP are hinged at P , velocities u and u' of A and B being given v , that of P , is required. At P draw the normals u and v ; from the head of u draw a line perpendicular to AP , and from the head of

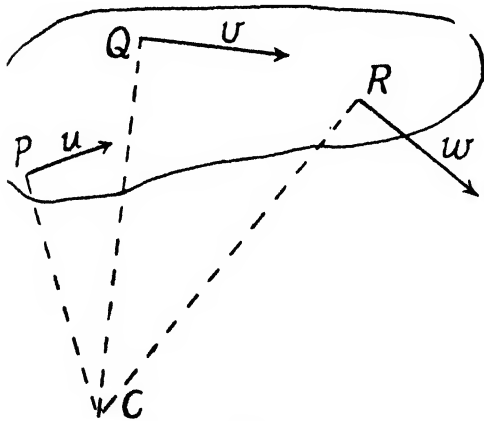


FIG. 4.

a perpendicular b to BP . Now P is on the line AP , therefore if the arrow representing its velocity starts at P it must, by I, end on a ; v must also end on b . Hence v goes from P to the intersection of a and b .

III. Given the velocities of two points of a rigid body to find that of any other point.

In Fig. 4 u and v are given and w is required. From equation (1) if the velocity v of P in Fig. 1 is zero $\xi/\eta = -\tan \theta$;

therefore since ξ/η is the cotangent of the angle the velocity of O makes with X , that point whose velocity is zero at a certain instant lies on a normal to the velocity of O . There is evidently only one such point for if there were two the whole body would be instantaneously at rest. This point is called the

instantaneous centre of rotation; it was discovered by John Bernoulli, 'De Centro Spontaneo Rotationis' (1742) but Descartes had previously placed it in studying the cycloid. In Fig. 4 the normals to u and v intersect at C which, being the instantaneous centre, lies on a normal to w . As the body rotates instantaneously about C , the velocities are proportional to the

instantaneous radii, which fact furnishes an obvious method for getting w .

When C lies off the drawing paper proceed thus. Since the body is rigid u and w must have equal projections on PR , and v and w equal projections on QR . Draw the projections at R and erect normals at their ends; the head of w will lie at the intersection of these normals. This method fails when P, Q, R are collinear. If the instantaneous centre cannot be used note that (a) the projections of u, v, w on PR must be equal, and (b) as the body cannot

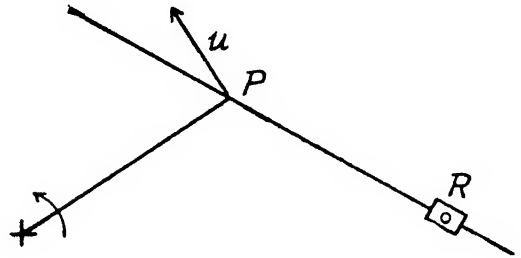


FIG. 5.

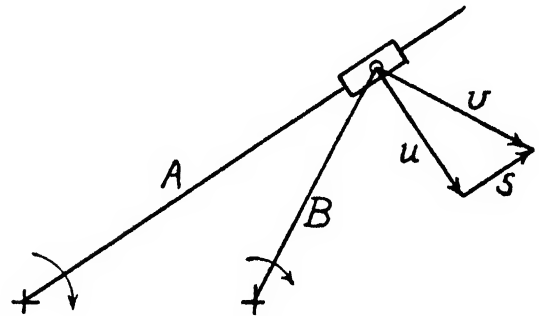


FIG. 6.

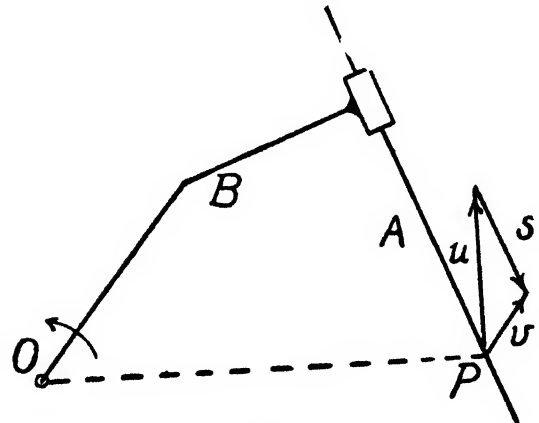


FIG. 7.

bend, the components of u, v, w normal to PR , at P, Q, R must end on a straight line; w is then found from its two components.

IV. To find the velocity of any point on a rod moving in a sleeve. There are several cases which are shown in Figs. 5-7. In Fig. 5 the sleeve is a tube free to rotate about a fixed axis; the rod slides in the sleeve and turns with it. Suppose u to be known. The only point, besides P , whose direction of motion is known is that point R on the rod which is also

at the axis of rotation of the sleeve: it moves along the rod but has no transverse component. Hence the velocity of R is found as in II, and that of any other point as in III.

In Fig. 6 the sleeve slides on A and is pivoted on B . The centre of the sleeve has two motions: s along and u normal to A ,

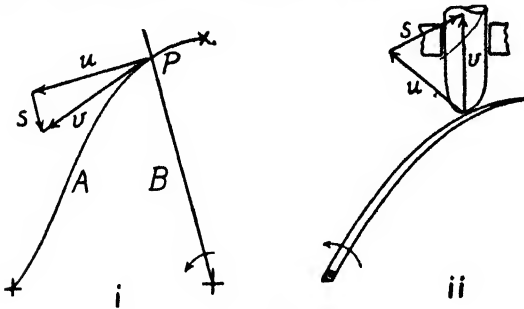


FIG. 8.

their resultant v being perpendicular to B , so that if one of these three velocities is known the vector triangle in Fig. 6 gives the other two.

If, as in Fig. 7, the sleeve is rigid at the end of a rod B , any point P on A will have two motions: s along A , and u normal to OP , their resultant being v . The reader should observe that Figs. 6 and 7 were solved by using the principle of superposition.

V. *Sliding pieces.* These occur in two forms. In an iris diaphragm, a photographic shutter, or a pair of shears, two blades slide over each other, it being required to find the velocity of the point common to the two overlapping edges; in cams and gear teeth two tangential surfaces slide and roll on each other, the problem being to find the velocity ratio of the two pieces.

In Fig. 8 i, A is fixed and B rotates. The velocity v of P is the resultant of u , due to rotation, and s due to sliding along B ; v is tangent to A at P . In the toe and lift mechanism, shown schematically in Fig. 8 ii, v is the resultant of u , due to rotation, and s due to sliding along the common tangent. If both pieces in Fig. 8 i turn use the method of superposition: hold A and B fixed in succession. Fig. 9 shows two cams or parts of two gear

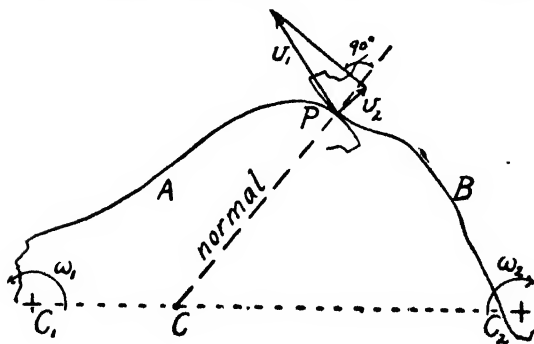


FIG. 9.

teeth turning about fixed centres C_1 and C_2 ; it is required to find the angular velocity ratio ω_1/ω_2 . The point of contact on A has a velocity v_1 normal to C_1P and on B the velocity v_2 is normal to C_2P ; these are the actual velocities of points fixed on A and B ; they must be equal for

pure rolling. If the two surfaces are not to separate, v_1 and v_2 must have equal projections on the common normal. If the normal components are equal the tangential component cannot be, for v_1 and v_2 would be opposite along the same line; hence sliding takes place and the motion is not pure rolling. Now suppose the contours to touch at some other point C . The velocities there can be collinear: only if C lies on C_1C_2 ; if they are equal there will be pure rolling without sliding. In this case the relative motions of A and B are rotations about C , hence as the relative velocities at P are along the tangent and are due to relative rotations about C , C must lie on the normal at P . C is the pitch point and C_1C and C_2C the radii of the pitch circles. The angular velocity ratio is found from $C_1C\omega_1 = C_2C\omega_2$; it is constant, as in gear wheels, C must remain fixed, whence the normals at successive points of contact of the teeth must pass through the pitch point. This is the basic law of gear teeth design.

VI. *Pure Rolling.* The simplest case of pure rolling is that of a gear or wheel train;

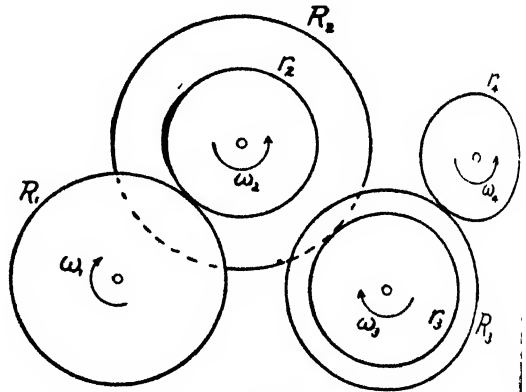


FIG. 10.

Fig. 10 shows the pitch circles, all centres being fixed in position. By equating rim velocities

$$R_1\omega_1 = r_2\omega_2, R_2\omega_2 = r_3\omega_3, R_3\omega_3 = r_4\omega_4,$$

the product of which gives

$$R_1R_2R_3\omega_1 = r_2r_3r_4\omega_4$$

in which capitals refer to drivers and lower case letters to followers. Sometimes the shafts all the wheels are mounted in a rigid frame. Let the frame turn $+n$ times around the shaft of the second wheel while this wheel is prevented from turning. The number of turns made by the other wheels is found by the method of superposition as follows. First let R_2 (and of course r_2) turn with the frame; then R_1 , R_3 and r_4 make $+n$ turns, there being no relative motion of the wheels. Now hold the frame fixed and give $-n$ turns

R_2 ; then R_1 , r_3 and r_4 turn respectively $+n$

$+ \frac{R_2}{r_1}n$ and $\frac{R_2R_3}{r_1r_4}n$ times. Superpose

two motions or imagine them to occur simultaneously. Similar considerations lead to an occasionally surprising result that if a 25-cent piece is rolled once around the circumference of a fixed 25-cent piece it will make two around its own centre.

Quadric Chain; Inversion; Theorem of Three Centres.—The simplest mechanism consists of four pin-connected or hinged links, Fig. 11, called by Reuleaux the *quadric chain*; it may be regarded as the kinematic unit of mechanisms having surface contact. A considerable number of different mechanisms may be derived from it by *inversion*; this consists in

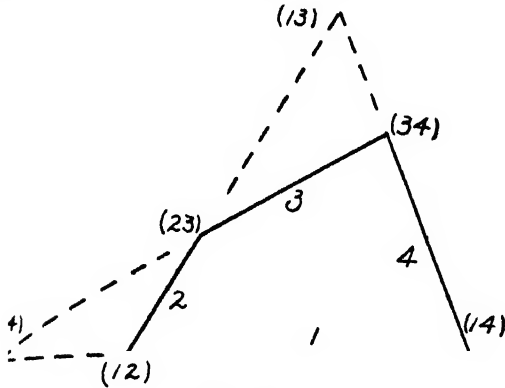


FIG. 11.

ing any two points on any one link. The theorem, due to Reuleaux, is useful in giving an insight into the relationships in families of mechanisms. (Consult Durley, 'Kinematics of Machines,' 1903). Inversion does not change relative motions. The points (12), (23), (34) and (14) are the relative instantaneous centres of the links whose numbers they bear. For example if 4 or 2 is fixed then (24) is the I.C. (instantaneous centre) of 2 and 4 for motion relative to each other; likewise (13) is the relative I.C. of 1 and 3. Observe that (24), (23) and (34), and (21), (23) and (13) are collinear triplets of the form (yx) , (yz) , (xz) . This is a special case of the *theorem of three centres* now to be proved. Consider Fig. 12, representing three bodies having relative plane motion.

The I.C. of the relative motion of two pieces is that pair of coincident points (one on each body, extended if necessary) having the same velocity, for their relative velocity is then zero;

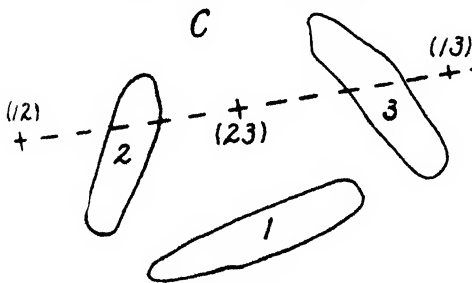


FIG. 12.

each body thus turns about the relative I.C. of the other. Let (12) and (13) be known in Fig. 12. If (23) is at some such point as C, the velocity of C, considered as being part of 2, is normal to (12) C; when it belongs to 3 its velocity is normal to (13) C. These velocities have different directions and cannot be vectorially equal unless they are collinear, whence (23), the correct position of C, must lie on

(12) (13). The utility of the theorem of three centres is illustrated in Fig. 13; the two crosses indicate fixed centres. By the theorem, (13) is collinear with (12) and (23), and also with (15) and (53); therefore it lies at the intersection of two lines through these pairs. For a discussion of this theorem and other relevant topics consult J. H. Billings, *Applied Kinematics* (1946).

Kinematically Determinate Mechanisms.—Any system of interconnected bodies is kinematically determinate when the velocity of one point determines the relative velocity of every other point. When the mechanism consists of P pins interconnected by l links the criterion of determinateness is found as follows: It takes 3 links to connect 3 of the pins into a rigid triangle; each remaining pin requires 2 links to fasten it rigidly to the frame already formed, hence $3 + 2(p - 3) = 2p - 3$ links

will connect p pins into a rigid coplanar network. Each link represents a constraint. If one link is removed one degree of freedom will be introduced and the frame will be uniquely deformable. Hence

$$l = 2p - 4$$

is the relation between the number of links and pins in a kinematically determinate mechanism.

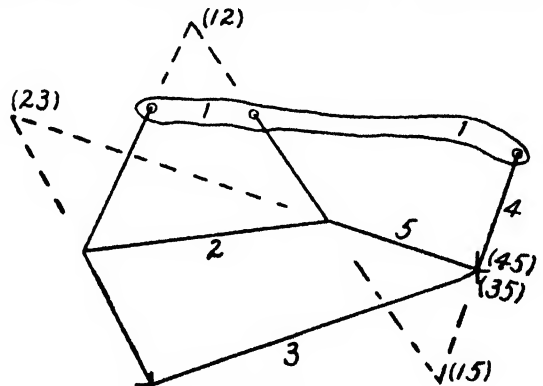


FIG. 13.

The criterion requires interpretation in special cases.

(i). Fixed pins are those fastened to some frame of reference. Two such pins are equivalent to one link; for f fixed pins there are virtually $2f - 3$ links. If f of the p pins are fixed and there are l actual links

$$l + 2f - 3 = 2p - 4.$$

(ii). One link having 3 pins on it counts as 3 links since it may be regarded as a collapsed triangle; a link with m pins counts as $2m - 3$ links.

(iii). A crosshead or sleeve is equivalent to a link of zero length; it must therefore be counted as 2 pins and 1 link.

(iv). A point at which there is line contact, as in cams and gears, counts as 2 pins and 1 link.

Centroides.—The locus in space of the instantaneous centre is called the *space centrode*; the locus in the body is the *body centrode*. The term *centrode* is due to Clifford, 'Elements of Dynamics' (1878); the idea, however, is found in Poinsot, 'Théorie nouvelle de la rotation' (1851) and Reuleaux. The latter used it in

place of the foregoing methods. In Fig. 14 C , C_1 , C_2 and C , c_1 , c_2 represent simultaneous or corresponding points on the two centrodes. Since the instantaneous centre will take the positions C_1 and C_2 , c_1 and c_2 must fall on them

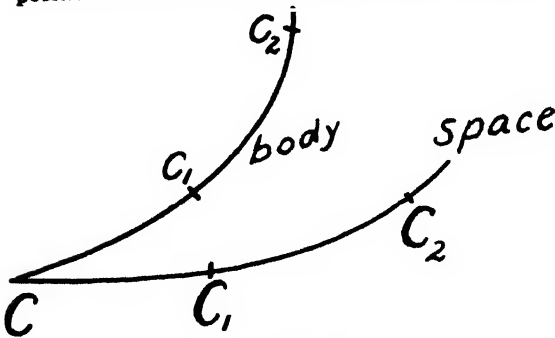


FIG. 14.

during the motion. No sliding will occur since the body rotates about the instantaneous centre, hence the body centrode rolls on the space centrode. For example, the circumference of a wheel is the body centrode and the line along which it rolls is the space centrode.

Accelerations.—It is not easy to find accelerations except in simple mechanisms; fortunately only simple cases arise in practice. In the four-bar linkage or quadric chain, Fig. 15 i,

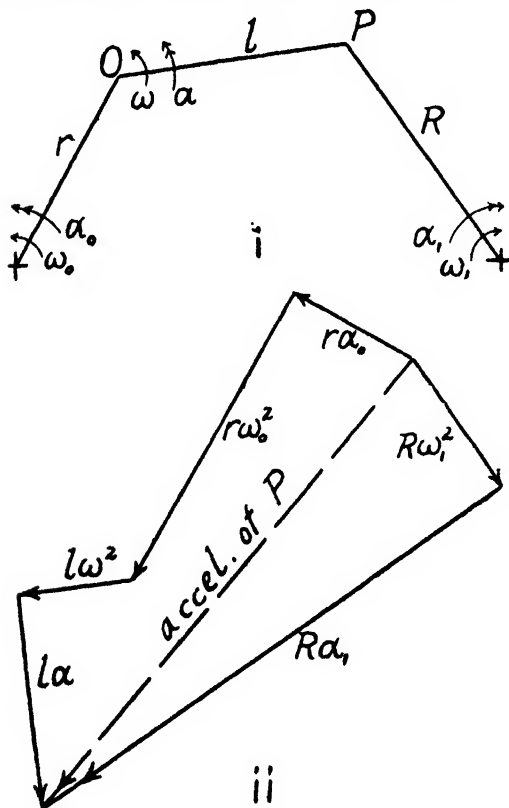


FIG. 15.

if ω_0 and α_0 are known, ω and ω_1 can be found because the linear velocity of P can be found by the method shown in Fig. 2. Hence $l\omega^2$ and $R\omega^2$, the radial accelerations of P , can be computed. If v is the velocity of P relative

to O , $v = l\omega$ or $v/l = \omega$; i.e., $l\omega^2$ is a third proportional to l and v and may therefore be found by geometric methods; this applies also to $r\omega^2$ and $R\omega^2$. By Theorem II above the acceleration of P is the resultant of $r\omega^2$, $r\alpha_0$, $l\omega^2$, $l\alpha$; it is also the resultant of $R\omega^2$ and $R\alpha_1$, whence the construction in Fig. 15 ii. Other methods are given by Land "Geschw. — und Beschl. — Plan für Mechanismen" (*Zeit. d. Ver. deut. Ing.*, 1896) and Rittenhaus, "Der Civilingenieur" (1880, p. 244). The ordinary connecting rod mechanism may be solved by special methods which are quicker. Let the crank in Fig. 16 turn at constant speed ω . The velocity of C is given according to Fig. 2 by the construction at C ; v is the velocity of C relative to P . Draw OQ vertical, then OPQ is similar to the velocity triangle. If ω is called

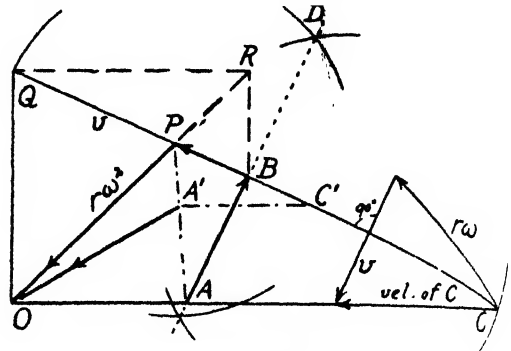


FIG. 16.

unity the triangles will be equal so that OP represents both the relative velocity v and OP represents both $r\omega$ and $r\omega^2$. With P as centre and radius $PQ = v$ draw an arc; on the connecting rod as diameter draw an arc intersecting the former in two points and through them draw the chord. Since BD is a common ordinate in the two semi-circles on CQ

$$BD^2 = (v + BP)(v - BP) = (l - BP)BP$$

$$\text{or} \quad BP = \frac{v^2}{l}$$

Hence as two sides ($PO = r\omega^2$ and BP) and directions of the acceleration polygon of C are known the remaining quantities are determined i.e., AO is the acceleration of the crosshead. This construction was found independently by Kirsch, "Graphische Bestimmung der Kolben beschleunigung" (*Zeit. d. Ver. deut. Ing.*, 1890) and Klein, "Force of Inertia of Connecting Rods" (*Journal Franklin Institute*, 1891). The following method is due to Mohr, "Konstruktion der Beschleunigung am Kurbelgetriebe," *Der Civilingenieur* (1). From where the horizontal through Q in Fig. 16 cuts the crank draw a vertical RB and then BA perpendicular to the connecting rod. AO is the acceleration of C because from similar triangles

$$\frac{BP}{v} = \frac{PR}{PO} = \frac{v}{l}$$

$$\text{or} \quad BP = \frac{v^2}{l}$$

as before.

The acceleration of any other point C' of the connecting rod is needed in Dynamics Machinery (q.v.). $AB + BP = AP$ is the

ration of C relative to P and, being of the form $1 + 10^2$, is proportional to $l = PC$. The relative acceleration of any other point C' is thus proportional to PC' ; consequently if $C'A'$ is drawn parallel to CO , $A'P$ will be the relative acceleration of C' , PO the acceleration of P , and $A'O$ the resultant acceleration of C' .

RICHARD F. DEIMEL.

KINETIC THEORY OF GASES, a theory that regards gases as composed of a very large number of molecules per cubic centimeter, each very small in size, so small that at a pressure of one atmosphere the total volume of all the molecules is negligible in comparison with the volume of the gas. If the molecules are assumed to be exceedingly small in proportion to the volume in which they are free to move, the probability of a collision involving three or more molecules becomes vanishingly small in comparison with a collision between only two molecules; this simplifies the theoretical treatment. One can get some idea of how small the molecules of air really are by considering that if 1000 cm³ (cubic centimeters) of air under standard conditions of temperature and pressure were liquefied, there would be only a little over 1 cm³ of liquid air, and even then the liquid molecules would not fill all the volume of the 1 cm³, only about one-half of it. However, there is an enormous number of molecules (2.703×10^{19}) in 1 cm³ of a gas at normal temperature and pressure; so many that if placed side by side in a line they would extend about 25 times around the earth at the equator.

There are many ways of determining the diameter of a molecule of gas. But it must be remembered that a molecule is not a hard elastic sphere like a glass marble, but rather an electromagnetic field with lines of force emanating from what may be called the "nucleus" of the molecule. These lines of force may be compressed more or less, and so the value of the diameter will depend somewhat on the method of measurement. The following table shows the value of the diameter of the hydrogen molecule obtained by various methods.

Method	Diameter
Viscosity	2.18×10^{-8} cm
Molecular Refraction	1.86
van der Waals' b	2.76
Diamagnetism	2.90
Packing in liquids	4.00
Slow electrons	4.00

In the early development of the kinetic theory of gases, the molecules were assumed to be hard, smooth, perfectly elastic spheres because spheres can collide in only one way, which is not true for other shapes; these assumptions were made in the main to simplify the mathematical difficulties. It is to be noted that while the above values for diameters vary considerably, they are of the same order of magnitude; furthermore, one cannot be quite sure of what he is measuring when he measures the "diameter" of a molecule because it is not a hard, smooth sphere.

That the molecules are perfectly elastic is quite a rational assumption and is shown by the following. The hydrogen molecule at 0°C. has a root-mean-square velocity of about 18.4×10^4 cm per sec., and its mean free path (see MOLECULAR THEORY) is about 18.4×10^{-8} cm, so that the average molecule of hydrogen is in collision with other

molecules about ten billion times per second. Now, if these molecules lacked only an infinitesimal fractional part of being perfectly elastic, at this collision rate they would soon come to rest if the gas was well insulated from outside heat energy. And so it is generally assumed that there is no loss of kinetic energy in collisions between molecules.

Boyle's Law and van der Waals' Equation.—Robert Boyle discovered (1662) that at constant temperature the volume of a given mass of gas was inversely proportional to its pressure, or

$$P_1 V_1 = P_2 V_2 = P_3 V_3, \text{ etc.} \quad (1)$$

This law holds very well for ideal gases but fails for real gases because at high pressures the molecules occupy an appreciable part of the volume of the vessel, and because when close together they attract one another. Therefore, to get the true pressure, a term must be added to P and for the true volume a term must be subtracted from V .

Johannes Diderik van der Waals proposed the following equation as a substitute for Boyle's law:

$$(P + \frac{a}{V^2})(V - b) = RT \quad (2)$$

where V equals gram molecular volume; T the absolute temperature; R the universal gas constant; and a and b the so-called van der Waals' constants which are characteristic of the gas under examination. For the concepts of these terms and their values, the reader is referred to the books listed at the end of this article. Equation (2) was developed for real gases and holds throughout a far greater range than does Boyle's law.

Law of Gay-Lussac.—This law states that at constant volume, different gases exhibit the same change in pressure when subjected to the same change in temperatures; or

$$P_t = P_0(1 + \alpha t) \quad (3)$$

where P_0 is the pressure of the gas at 0°C., P_t the pressure at t °C., and α is known as the pressure coefficient of the gas at constant volume. If we multiply each side of equation (3) by V_0 , the volume of one mole of the gas, we get

$$P_t V_0 = P_0 V_0(1 + \alpha t), \text{ or from Boyle's law}$$

$P_t V = P_0 V_0(1 + \alpha t)$; now, since α has been found to be very nearly equal to $1/273$, this becomes

$$V = P_0 V_0(1 + \frac{t}{273}) = \frac{P_0 V_0}{T_0}(273 + t) = RT \quad (4)$$

R , the universal gas constant per mole, may readily be calculated as equal to 8.315×10^7 ergs per mole per degree.

Joule's Equation.—What may be called the most characteristic property of a gas is its tendency to expand indefinitely. If a gas is confined in a vessel, this tendency to expand produces a pressure against the walls of the containing vessel. James Prescott Joule, using some simplifying assumptions regarding the size and the velocities of molecules in a gas, showed (1851) that the exact relation existing between the pressure exerted by a gas and the mean kinetic energy of translation of its molecules was

$$P = \frac{1}{3}nm\bar{v}^2 = \frac{1}{3}p\bar{v}^2 \quad (5)$$

where m is the mass of a molecule, n the number of molecules per cm³, \bar{v}^2 the root-mean-square

velocity of the molecules and ρ the density of the gas. From this we may calculate this velocity for any gas; e.g., for hydrogen at 20°C. this velocity is a little over one mile per second.

Since the total kinetic energy of translation for n molecules is $\frac{1}{2}nmv^2$, it is seen from equation (5) that the pressure exerted by a gas is numerically equal to two-thirds of the kinetic energy of translation of the molecules in unit volume, which gives $PV = \frac{2}{3}E$, where E equals the kinetic energy of translation of the molecules in volume V . And so the condition for constant temperature of a gas is a constant mean kinetic energy of translation of its molecules.

Avogadro's Law.—Multiplying both sides of equation (5) by V , we get $PV = \frac{1}{3}nmv^2$, where N is the total number of molecules in the volume V . If we have two different gases,

$$P_1V_1 = \frac{1}{3}N_1m_1v_1^2 \text{ and } P_2V_2 = \frac{1}{3}N_2m_2v_2^2,$$

and if we make $P_1 = P_2$ and $V_1 = V_2$, then

$$\frac{1}{3}N_1m_1v_1^2 = \frac{1}{3}N_2m_2v_2^2.$$

Multiplying both sides by $\frac{3}{2}$, we have

$$\frac{1}{2}N_1m_1v_1^2 = \frac{1}{2}N_2m_2v_2^2$$

From mechanics and the theory of probability, James Clerk Maxwell showed (1854) that the kinetic theory of gases leads to the conclusion that, at the same temperature, the molecules of all gases have the same average kinetic energy of translation except at very low temperature. Now if the temperature is the same for the two gases, then $\frac{1}{2}m_1v_1^2 = \frac{1}{2}m_2v_2^2$ and $N_1 = N_2$. That is, equal volumes of all gases at the same temperature and pressure contain the same number of molecules. The number of molecules in one mole of gas at normal temperature and pressure is called *Avogadro's number* and the accepted value is $N = 6.06 \times 10^{23}$. N has very nearly the same value when calculated from such different experiments as Brownian movements, mean free path and van der Waals' b , density fluctuations in a liquid, the blue of the sky, measurement of unit electric charge, charge on an alpha particle, number of alpha particles in volume of helium, law of atmospheres, half-life of radium and rate of emission of alpha particles, kinetic energy of alpha particle, and black-body radiation. See also **AVOGADRO'S HYPOTHESIS**.

Specific Heat of a Gas.—According to a famous principle known as the *equipartition of energy*, when a dynamical system is in equilibrium at a given temperature, the same amount of energy is associated with each "degree of freedom," that is, with each independent mode of motion in the system. Any molecule has three degrees of freedom of translation; a *diatomic* molecule has in addition two degrees of freedom of rotation; a *triatomic* molecule has three degrees of freedom of rotation. If the atoms in a molecule vibrate, then there is a degree of freedom for each mode of vibration.

The total energy of molecular translation in unit volume of a gas is

$$\frac{1}{2}nmv^2 = \frac{1}{2}\rho v^2 = \frac{3}{2}pRT$$

Hence, for unit mass of a gas, the kinetic energy equals $\frac{3}{2}RT$. And if the gas is heated only 1°C., as is specified in the definition of *specific heat*, this increase in energy is $\frac{3}{2}R$. Therefore, the specific heat of a gas at constant volume, C_v , should be $\frac{3}{2}R$, provided the molecules absorb no other energy than energy of translation. This is true for

the inert gases helium, argon, etc., which are monatomic and have only three degrees of freedom. For diatomic molecules one must add two degrees of freedom of rotation, or $C_v = \frac{5}{2}R$. In considering specific heat at constant pressure, C_p , one must add to C_v the work done by the gas expanding against atmospheric pressure, and thus C_p is greater than C_v . Ludwig Boltzmann showed that $\frac{C_p}{C_v} = \gamma = 1 + \frac{2}{n}$ where n is the number of degrees of freedom of the gas. For monatomic molecules $\gamma = 1.66$, which agrees with experiment; for diatomic molecules $\gamma = 1.40$, which is the value for oxygen, nitrogen, carbon monoxide, etc.

Maxwell-Boltzmann Distribution Law.—Maxwell and Boltzmann showed that if we postulate a gas with all molecules moving at a certain instant with a common velocity, these molecules, due to collisions, would immediately have different speeds in accordance with the equation

$$N_{dr} = \frac{4N}{\alpha^3\sqrt{\pi}} e^{-\left(\frac{v}{\alpha}\right)^2} dv$$

where N_{dr} represents the number of molecules having speeds between v and $v + dv$, N is the number of molecules per cm³, and α represents the most probable speed. While this equation would indicate the possibility of almost any velocity, the enormous number of collisions per second seems to enforce a sort of average velocity for most of the molecules. Calculation shows that only two or three molecules per thousand would have velocities over 400,000 cm per sec, about twice the average velocity for the hydrogen molecule at 20°C. Also, an infinitely small number would have a velocity of ten times the average velocity. Several experiments have been devised to test the Maxwell-Boltzmann law of distribution and all have agreed within the limits of accuracy of the experiments.

Brownian Movements.—In 1827, Robert Brown, a Scottish botanist, observed in a microscope that pollen grains suspended in water had irregular motions which never ceased. He made similar observations on many suspensions and found it to be a quite general phenomenon. He had the idea that the motions were due to the unequal bombardment of the particles of matter by the molecules of the liquid in which they were suspended. In 1909, Jean Baptiste Perrin began experiments with very small particles of quite uniform size immersed in various liquids to determine whether or not these small particles in suspension distributed themselves as do the molecules in the atmosphere. It is a well-known fact that the air is less dense at the top of a mountain than it is at the bottom. Perrin found that the density of the particles increases exponentially as the height decreases, which is exactly the same as Laplace's equation for the distribution of molecules with height above the earth's surface. Furthermore, in 1906 von Smoluchowski, and little later Albert Einstein, developed an equation showing a relation between the lengths of the irregular paths of suspended particles and, among other things, Avogadro's number, N . By very careful measurements, Perrin found a value for N which agrees very closely with the most accurate determinations of this constant. Thus Brownian movements provide a visual demonstration for the

reality of the thermal motions postulated by the kinetic theory. See also BROWNIAN MOVEMENT.

Consult Jeans, Sir I. H., *Dynamical Theory of Gases* (London 1916); J., *Les Atomes* (Paris 1913).
GEORGE WINCHESTER.

KING, Charles Glen, American chemist: b. Entiat, Wash., Oct. 22, 1896. After graduating B.S. at Washington State College in 1918 he served in an army unit during the last months of World War I, then resumed chemistry studies at the University of Pittsburgh which awarded him M.S. (1920) and Ph.D. (1923) degrees. From 1926 to 1930 he pursued graduate studies at Columbia and Cambridge universities. Meanwhile he had been teaching at Pittsburgh, continuing (1930-1943) as professor. Scientific director of the Nutrition Foundation in 1942, the same year he served as visiting professor at Columbia and was given a faculty appointment in 1946. He achieved international note in 1932 upon isolating Vitamin C.

KING, Clarence, American geologist: b. Newport, R. I., Jan. 6, 1842; d. Phoenix, Ariz., Dec. 24, 1901. He was graduated from the Sheffield Scientific School of Yale University in 1862, in 1863-1866 was a member of the California geological survey under the direction of Prof. J. D. Whitney (q.v.), discovered Mounts Whitney and Tyndall, and with J. T. Gardiner executed the first survey of the Yosemite Valley. In 1866 he originated the plan for a survey of the western Cordilleran region at its widest point. This plan was finally sanctioned by the government and under the auspices of the army engineering department and King's direction, was executed as the survey of the 40th parallel and completed in 1872. The survey was characterized as a signal contribution to the material of science. The volume on *Systematic Geology* (78), the first of six, was written by King. In 1872 certain swindlers sowed a tract in zona broadcast with rough gems; the discovery of valuable diamond fields was announced, and companies were organized for the exploration of the find. The "fields" proved to be within the local limits of the 40th parallel survey, and thereupon examined by King, who detected and proclaimed the fraud.

In 1878 King organized the various surveys now active into the United States Geological Survey under the general direction of the secretary of the interior, and was appointed the first director of the survey. He resigned in 1881, gained a large practice as a mining expert, and undertook an uncompleted series of experiments to determine the action of the primal constituents of the Earth under the conditions assumed as existing at the time of its separation from the sun.

KING, Edward, Anglo-Irish poet: b. Ireland, 1612; d. in shipwreck off Welsh coast, Aug. 9, 1637. Educated at Cambridge University, he became a fellow there in 1631. He was a man of scholarly attainments and good poetic taste which was shown in his Latin poems. He met Milton at Cambridge, and the two became very close friends. Milton had a strong influence over King and, had the latter lived, he might have produced some literary work of more general interest than that which he left at his premature death. As it is, he is chiefly noted as being the

inspiration of 13 poems by his classmates published under the title of *Obsequies to the Memory of Mr. Edward King* (1638), to which Milton contributed *Lycidas*.

KING, Edward (VISCOUNT KINGSBOROUGH), Irish writer and archaeologist: b. Cork, Ireland, Nov. 16, 1795; d. Dublin, Feb. 27, 1837. He was the eldest son of the third earl of Kingston and was educated at Oxford. Leaving college, he became a member of Parliament (1818-1826); but after eight years of public life he resigned his seat in favor of his brother, who took a great deal more interest in politics, than did the elder member of the family who had already become a confirmed antiquarian, deeply attracted toward the ancient civilizations of Mexico.

After several years spent in the work of examining and collecting the Aztecs and other manuscripts of the pre-Columbian Mexican civilization, he began, in 1830, the publication of his monumental work on *The Antiquities of Mexico* . . . which was gradually issued in London in nine superb volumes, profusely illustrated. He set out with the intention of proving that the people of Mexico were of Jewish origin and the descendants of the lost 10 tribes of Israel. To this all his acute reasoning, his undoubted erudition and his enthusiasm combined with his diligence were directed. From all the libraries of the Old and the New World he collected manuscripts and codices and other remains of pre-Columbian life supplemented with other documents following the conquest of Mexico. All the documentary material in the form of codices and several most valuable documents of post-conquest days he included in his publications, the codices being reproduced in color at an enormous expense. In fact so great was the cost of collection, examination and publication of this material that it exhausted Kingsborough's fortune, and he was arrested by his printer and cast into a debtor's prison in Dublin where he died of typhus contracted in what was then one of the most insanitary prisons of the British domains. Among the valuable texts published in Kingsborough's work is the *Monuments of New Spain* by Sahagun, which is the most fruitful and interesting of the existing documentary evidence of the pre-Columbian civilization of Mexico and Central America, with perhaps the one exception of the existing codices relating to pre-conquest Mexico. Kingsborough's work was looked upon as a marvel of the printer's and engraver's art in his day.

KING, Ernest Joseph, American naval officer, commander of all U.S. naval forces during World War II: b. Lorain, Ohio, Nov. 23, 1878. The son of James C. King and Elizabeth (Kearney) King, he graduated with distinction from the United States Naval Academy in the class of 1901, standing fourth in the class. Before graduating he saw service in the Spanish-American War as a naval cadet on the U.S.S. *San Francisco* and was under enemy fire on that ship in Havana Harbor.

On graduation he was assigned to duty on the U.S.S. *Eagle* in the West Indies. During the next five years he served on the U.S.S. *Cincinnati*, the U.S.S. *Illinois* and the U.S.S. *Alabama*. He was promoted to lieutenant in June 1906 and shortly thereafter was ordered to duty as an instructor in the Department of Ordnance

and Gunnery at the Naval Academy. In 1909 he went to sea on the staff of the commander in chief of the United States Atlantic Fleet. During this tour of sea duty lasting until 1912, he spent about a year as the engineer officer of the U.S.S. *New Hampshire*. This duty was followed by two years at the Engineering Experimental Station, Annapolis, Md.

His next sea duty beginning in April 1914 and lasting until May 1919 included command of the destroyer *Cassin* and of a destroyer division followed by duty in various capacities on the staff of the commander in chief United States Atlantic Fleet ending up as assistant chief of staff. He was awarded the Navy Cross for his services on that assignment.

Admiral King had now reached the rank of captain and was in May 1919 detailed as the head of the Postgraduate School of the Naval Academy which position he held until July 1921, when he went to sea in command of the U.S.S. *Bridge*. Later during the cruise he was assigned to submarine duty. From September 1923 until July 1926 he was in command of the Submarine Base, New London, Connecticut. While on that duty he was in charge of raising the U.S.S. *S-51* which was sunk off Block Island on 25 Sept. 1925. He was so outstandingly successful in this undertaking that when the U.S.S. *S-4* was rammed and sunk off Provincetown, Mass., in December 1927, he was assigned to temporary duty in command of the force that raised the vessel, although he was not at that time on submarine duty. For the first of these achievements he was awarded the Distinguished Service Medal to which was added the Gold Star for his work in raising the *S-4*.

After his New London tour of duty, he took up aviation, first as commanding officer of the airplane tender *Wright*, followed by flight training at Pensacola where he qualified as a naval aviator in June 1927. From August 1928 to August 1929 he was assistant chief of the Bureau of Aeronautics, followed by command of the Naval Air Station, Norfolk, Va., two years as commanding officer of the U.S.S. *Lexington*, a year at the Naval War College, Newport, R.I., and from April 1933 to June 1936 as chief of the Bureau of Aeronautics with the rank of rear admiral. He was promoted to the permanent rank of rear admiral in November 1933.

From June 1936 until February 1941 when he was appointed commander in chief, Atlantic Fleet, with the rank of admiral, he held various assignments including commander, Aircraft Scouting Force; commander, Aircraft Battle Force; and a year on the General Board at the Navy Department.

The attack on Pearl Harbor on 7 Dec. 1941 made it necessary to consolidate immediately all United States naval forces under one commander in chief. President Roosevelt had an easy decision to make in selecting the officer best fitted for that assignment. No other officer in the United States Navy had had such breadth of experiences as Admiral King as will be noted from even the brief outline of his career given above. He had had surface ship, submarine, and aviation duty. He had had scientific and engineering training. He was as much at home in the engine room as on the bridge of a ship and he had demonstrated his qualifications as a leader, and as an administrator by brilliant achievements.

President Roosevelt appointed Admiral King commander in chief of the United States Fleet on 20 Dec. 1941. In order to consolidate still further authority with responsibility in the administration of the navy as a war machine, the duties of the commander in chief, United States Fleet and of the Chief of Naval Operations were combined by executive order on 12 March 1942. On 13 March 1942, President Roosevelt nominated Admiral King as Chief of Naval Operations in addition to his duties as commander in chief of the United States Fleet, and he was confirmed in that office by the Senate on 18 March 1942 for a term of four years. On 1 Dec. 1944, by vote of the Senate, he was made a five-star Fleet Admiral.

KING, Grace Elizabeth, American writer b. New Orleans, 1852. She was educated in New Orleans, contributed much to periodicals and published in the *New Princeton Review* in 1886-88 Creole sketches which won considerable reputation and constituted the story *Monsieur Motte* (1888). Among her further works are *Tales of Time and Place* (1888); *Earthlings* (1889); *Chevalier Alain de Trison* (1889); *Jean Baptiste Lemoine, Founder of New Orleans* (1892); *Balcony Stories* (1893); *New Orleans. The Place and the People* (1896); *De Soto and His Men in the Land of Florida* (1898); *History of Louisiana, Stories from History of Louisiana* (1916); *Pleasant Ways of St. Médard* (1916); *Creole Families of New Orleans* (1921); *Madame Girard, an Old French Teacher of New Orleans* (1922); *La Dame de Sainte Hermine* (1924). Died 12 Jan. 1932.

KING, Helen Dean, American biologist; b. Oswego, N.Y., 1869. Graduated from Vassar and Bryn Mawr colleges she taught biology at the latter school (1897-1907), during a part of which time she was fellow in research work at the University of Pennsylvania and she became assistant, in this latter institution, in anatomy (1908-09). She has also been connected with other colleges and has devoted much of her time and efforts to the determination of sex and the problems connected therewith, subject on which she has written and lectured extensively. In 1937, she was chosen vice president of the American Society of Zoologists.

KING, Henry Melville, American Baptist clergyman: b. 3 Sept. 1838; d. 6 June 1915. Educated at Bowdoin College and Newton Theological Institution he was ordained to the Baptist ministry 28 Aug. 1862. He was instructor in Hebrew in Newton Theological Institution 1862-63, and then served in turn Dudley Street Church, Boston, 1863-82; Emmanuel Church, Albany, N.Y., 1882-91, and First Church, Providence, R.I., 1891-1906, when he was made pastor emeritus. He was an officer and trustee of several church societies and institutions. He was president of the Northern Baptist Educational Society, 1875-82, and of the Rhode Island Baptist State Convention, 1891-95. He was an authority on the history of his denomination. His works include *Early Baptists Defended* (1880); *Mary's Alabaster Box* (1883); *The Gospels* (1895); *Summer Visit of the Rhode Islanders to Massachusetts Bay* (1896); *The Mother Church* (1896); *The Baptists of Roger Williams* (1897); *The Messiah*

the *Psalms* (1899); *Why We Believe the Bible* (1902); *Religious Liberty* (1903); *John Mylsey and the Founding of the First Baptist Church in Massachusetts* (1908); *Historical Catalogue of the First Baptist Church in Providence* (1908); *Sir Henry Vane, Jr.* (1909); *Prayer and Its Relation to Life* (1912); and *Thinking God's Thoughts After Him* (1914).

KING, Horatio, American editor, author, attorney, and postal official; b. Paris, Me., June 21, 1811; d. Washington, D.C., May 20, 1897. As a youth he was a printer's devil on the *Paris Jeffersonian*, a weekly newspaper that supported the Democratic Party. At 20 he was the owner and editor of the *Jeffersonian*, which he moved to Portland, Me., and a staunch adherent of Jacksonian Democracy. After 1838 he held a clerkship in the Post Office Department in Washington, D.C., and rose through successive promotions to be superintendent of the foreign mail service. In this post he inaugurated cheap transatlantic postage and extended the service to South American countries, the West Indies, France, Belgium, and several German states. He was briefly postmaster-general in the cabinet of President James Buchanan (February 1861).

King was well known in Washington society and had considerable political influence. He is said to have been the first man in public office to deny the right of secession from the Union (in a letter to Representative J. D. Ashmore of South Carolina, Jan. 28, 1861). He supported the Union and President Abraham Lincoln throughout the Civil War. He was the author of *Sketches of Travel; or Twelve Months in Europe* (1878), and *Turning on the Light* (1895), a defense of the administration of President James Buchanan.

KING, James Gore, American financier; b. New York, N. Y., May 8, 1791; d. New York, N. Y., Oct. 3, 1853. The third son of Rufus King (q.v.), he was educated in London and Paris and at Harvard University. He became an attorney, but gave up his practice to serve as assistant adjutant general of militia in the War of 1812. Subsequently he turned to finance and after 1824 was a partner in the banking firm of Prime, Ward, and Sands. In the financial panic of 1837, he secured a loan of £1,000,000 from the Bank of England to the banks of New York City and thereby saved many of them from ruin. Elected to the House of Representatives as a Whig in 1838, King supported the administration of President Zachary Taylor and voted against several measures conceding various demands of Southern slave interests, including the Fugitive-Slave Bill.

KING, John, American physician and pharmacologist; b. New York, N. Y., Jan. 1, 1813; d. North Bend, Ohio, June 19, 1893. He entered the reformed Medical College of New York City and came under the influence of Dr. Wooster Beach, a physician who hoped to improve medical practice by substituting the use of organic drugs for feeding and other traditional treatments then accepted by the majority of physicians. King was graduated in 1848, subsequently taught at the college, and in 1848 became the first secretary of the National Eclectic Medical Association, an outgrowth of the Reform movement in American medicine. Thereafter King was one of the leaders of Eclectic medicine (q.v.). He was celebrated for his achievements in pharmacology, notably his

introduction into medical use of sanguinaria, hydrastis, and various resins, including podophyllin and the oleo-resins of capsicum and iris. He was the author of *The American Dispensatory* (1852), regarded as a monumental contribution to materia medica; *American Obstetrics* (1853); *Women: Their Diseases and Treatment* (1858); *The Microscopist's Companion* (1859); *The American Family Physician* (1860); *Chronic Diseases* (1866); *The Urological Dictionary* (1878); and the *Coming Freeman* (1886). The last named he wrote in behalf of the laboring classes and dedicated it to the Knights of Labor. He is sometimes regarded as the father of American materia medica.

KING, John Alsop, American politician and official; b. New York, N. Y., Jan. 3, 1788; d. near Jamaica, N. Y., July 7, 1867. The eldest son of Rufus King (q.v.), he was educated at Harrow School (England) and in Paris. He was admitted to the bar, but his practice was interrupted by military service in the War of 1812. Subsequently entering politics, he was several times elected to the New York state assembly (1832, 1838, 1840). His early political affiliations were successively with the Democrats, anti-Masons, and National Republicans; his later affiliations were Whig and Republican. He was a delegate to the Whig national conventions of 1839 and 1852, and in 1849, as a Whig, was elected to Congress, where he opposed various measures intended to compromise the slavery dispute between North and South, notably the Fugitive-Slave Bill. In 1856 he was a delegate to the first Republican National Convention and was elected governor of New York. He was one of the presidential electors in 1860, casting his vote for Abraham Lincoln. After 1861 he lived in retirement at his home near Jamaica, N. Y.

KING, Jonas, American Congregationalist missionary and consular official; b. near Hawley, Mass., July 29, 1792; d. Athens, Greece, May 22, 1869. He was graduated from Williams College in 1816 and from Andover Theological Seminary in 1819. After being ordained by the South Carolina Congregational Association in 1819, he studied Arabic in Paris to prepare himself for missionary work and spent three years in a mission in Palestine. Subsequently he was a missionary in Greece, where he hoped to establish a Greek Protestant Church. He published several theological and polemical works in modern Greek, including a collection of sermons (1859). King's evangelical activities often brought him into conflict with the Greek Orthodox Church. He was charged with slandering the church and tried at Athens in 1852, but escaped punishment. In 1863 he was anathematized by the Synod of Athens and one of his books was publicly burned. Between 1851 and 1857 King was the United States consular agent at Athens, and he was briefly a vice consul at the Piraeus in 1868.

Consult Haines, F. E. H., *Jonas King: Missionary to Syria and Greece* (New York 1879).

KING, Leonard William, English Assyriologist, and educator; b. London, England, 1869; d. Aug. 20, 1919. Educated at Rugby and Cambridge, he became greatly interested in the earlier civilizations of western Asia; and in 1903-1904 he was commissioned by the British Museum to carry on for it excavations at the site of Nineveh;

which he did successfully, collecting many very interesting and valuable rock inscriptions dating back to a comparatively early period of Assyrian civilization and culture. Through this and other work of a like nature he was chosen lecturer in King's College, London, and assistant keeper of Egyptian and Assyrian antiquities in the British Museum. In connection with this position he prepared a guide of the treasures under his care (1900).

Among his published works are *Babylonian Magic and Sorcery* (1896); *Cuneiform Texts in the British Museum* (1896-1914); *Assyrian Chrestomathy* (1898); *Letters and Inscriptions of Hammurabi* (1898-1900); *Babylonian Religion and Mythology* (1899); *Assyrian Language* (1901); *Annals of the Kings of Assyria* (1902); *Egypt and Western Asia in the Light of Recent Discoveries* (1906, with H. R. Hall); *Inscriptions of Darius on the Rock of Behistûn* (1907, with R. C. Thompson); *A History of Sumer and Akkad* (1910); *Boundary Stones and Memorial Tablets in the British Museum* (1912).

KING, Louis Vessot, Canadian physicist: b. Toronto, Ont., April 18, 1886. He was educated at McGill University and at Cambridge. In 1912 he became assistant professor of physics at McGill; associate professor in 1915; and Macdonald professor of physics there in 1920. In 1915-1920 he investigated submarine acoustics for the electrical and submarine committee of the British Inventions Board; in 1919 he was awarded the Howard N. Potts Gold Medal of the Franklin Institute for his invention of the hot-wire anemometer and in 1934 was awarded the Flavelle Medal of the Royal Society of Canada for conspicuous scientific achievement. At intervals since 1913 he has engaged in researches on fog alarms and the measurement of sound at sea, the measurement of air velocities by the hot-wire anemometer, and has made studies on the intensity and distribution of light from the sky. His publications include *On the Numerical Calculations of Elliptic Functions and Integrals*; memoirs on various scientific topics.

KING, Philip Parker, English naval officer and hydrographer: b. Norfolk Island, in the Pacific Ocean, Dec. 13, 1793; d. Sydney, Australia, Feb. 26, 1856. Entering the naval service in 1807, he was raised to the rank of lieutenant in 1814 and from 1817 to 1822 he was in complete charge of an important survey in Australian waters. Later on he spent four years in making surveys and charts of the southern coast of South America (1826-1830). Subsequently, he settled in Sydney, New South Wales, where he became, among other things, a legislative councillor and manager of the Australian Agricultural Society. In 1855 he was raised to the rank of rear admiral and placed on the retired list. Among his published works are *Narrative of the Survey of the Intertropical and Western Coasts of Australia*, 2 vols. (1827); *Sailing Directions to the Coasts of Patagonia* (1830); *Voyages of the "Adventure" and the "Beagle"*, 3 vols., of which King wrote only the first, Robert Fitz-Roy the second, and Charles Darwin the third (1839). He also made many very important charts which were long in use and upon which some of the later charts have been based. King's charts were issued by the Admiralty Hydrographic Department in 1825, and at subsequent dates. Some of

his later charts saw publicity through other sources.

KING, Preston, American statesman: b. Ogdensburg, N. Y., Oct. 14, 1806; d. New York Nov. 12, 1865. Graduated from Union College in 1827, he studied law and practiced for some time in St. Lawrence County, but constantly with an eye on politics and a hand in it. In 1830 prompted by his political inclinations, he founded the *St. Lawrence Republican* as the organ of the Jackson party in northern New York. This paper he edited vigorously in the interest of party politics, and he received his reward from Jackson in the shape of the postmastership of Ogdensburg (1831-1834). He resigned this appointment when he was elected a member of the New York Assembly. After his fourth term he suffered a mental breakdown, but soon recovered and served in the United States Congress, 1843-1847, 1849-1853. Throughout this time he had been a member of the Democratic Party, though he held different views from those of the majority of his party on the slavery question. He joined the Republicans in 1854 and strenuous political work for this party resulted in his election to the United States Senate (1857-1863). As a delegate to the Republican Convention at Baltimore in 1864 he was largely instrumental in securing for Andrew Johnson the nomination for the vice presidency of the United States. Later on King became collector of the port of New York. While holding this latter office he again became deranged and finally committed suicide by jumping from a ferry boat on the Hudson River.

KING, Rufus, American statesman: b. Scarborough, Mass. (later Maine), March 24, 1755; d. Jamaica, Long Island, N. Y., April 29, 1827. He was graduated from Harvard in 1777 and admitted to the bar in 1780. In 1784, after serving in the Massachusetts General Court, he was a delegate to the Continental Congress. He took an active part in framing the Federal Constitution. He removed to New York in 1788 and served as a senator from that state, 1789-1794. He was United States minister to Great Britain (1796-1803), and after some years spent in partial retirement was sent for the third time to the Senate in 1813, and won renown as an orator by the brilliant speech he made on the burning of Washington by the British. In 1819 he was again elected to the Senate, serving till 1825, when he was appointed the second time minister to the Court of St. James's. He was the Federalist candidate for the vice presidency in 1804 and 1808 and for president in 1816. In collaboration with Hamilton he wrote the *Camillus Letters* explaining the Jay Treaty.

KING, Rufus, American journalist and diarist: b. New York, Jan. 26, 1814; d. there, Oct. 13, 1876. He was graduated from West Point in 1833, entered the Corps of Engineers, resigned from the army in 1836, became assistant engineer of the New York and Erie Railroad, and was adjutant general of New York State, 1839-1843. He was associate editor of the *Albany Advertiser*, 1839-1841, and of the *Albany Evening Journal*, 1841-1845. In the latter year he moved to Wisconsin and became editor of the *Milwaukee Sentinel and Gazette* until 1861. In 1847-48 he was member of the state constitutional convention. In May 1861 he was commissioned

igadier general of the Wisconsin volunteers. e commanded a division in the Department of e Rappahannock in March-August 1862, was a member of the court-martial for the trial of Maj. en. Fitz-John Porter (1862-1863), resigned ct. 20, 1863, and was minister at Rome in 1863-1867. In 1867-1869 he was deputy customs collector of New York port.

KING, Samuel Archer, American aeronaut and scientist: b. at Tinicum, near Philadelphia, April 9, 1828; d. Philadelphia, Nov. 3, 1914. At the age of 21 he began making balloons, in which he took a great interest. He made his first ascension two years later at Philadelphia. His interest in the matter created interest in others, so that balloon ascensions became features of expositions, traveling shows, and other affairs at which many people were assembled. King himself sometimes made ascensions at such places, notably at the Centennial Exposition (Philadelphia 1876) and the Columbian Exposition (Chicago 1893). Altogether he made more than 400 ascensions, the last when he was nearly 80. The first aerial photograph was taken in 1860 from a balloon navigated by him. The use of balloons for Atlantic crossings was the object of many of his later studies and experiments.

KING, Thomas Butler, American lawyer and congressman; b. Palmer, Mass. Aug. 27, 1800; d. Waresboro, in Ware County, Georgia, May 10, 1864. As state senator from Georgia in 1832, 1834, 1835 and 1837 he promoted and founded the National Observatory in Washington and promoted aid for American shipping through mail subsidies. In 1849 he went to California as personal adviser to President Taylor on the California statehood question and in 1851 became collector for the port of San Francisco. He was elected to the state senate in 1859, and, after Georgia left the Union, served as her commissioner to England, France and Belgium. He was opposed to secession but served the Confederacy loyally until his death.

KING, Thomas Starr, American Unitarian clergyman and lecturer, generally known as STARR KING; b. New York, Dec. 17, 1824; d. San Francisco, March 4, 1864. In 1848-1860 he was pastor of the Hollis Street Unitarian Church of Boston, during this period gained great popularity as a lyceum lecturer in the northern states. Best known was his *Substance and Show*, but other familiar subjects were *Goethe, Sight and Insight, The Laws of Disorder, Socrates*. He became pastor of the First Unitarian Society of San Francisco in 1860; was among the first, by newspaper article and lecture, to call attention to the Yosemite Valley, and when, in the presidential campaign of 1860, the idea of the establishment of California as an independent Pacific republic was discussed, denounced the project from the lecture platform and preserved the state to the Union. During the Civil War he was active in obtaining in California large and necessary funds for the Sanitary Commission. His name was at one time associated with the White Mountains, which he thoroughly explored, and which became known chiefly through his writings, particularly *White Hills; Their Legends, Landscape and Poetry* (1859; new ed., 1887). One of the peaks of the White Mountains has been called Starr King in his honor, and one in Yosemite National

Park is named for him. A memorial to him was set up in Golden Gate Park, San Francisco, Calif., in 1889.

KING, William, English author: b. London, 1663; d. there, Dec. 25, 1712. Graduating from Oxford in 1685 he studied law but turned to a literary life. He soon proved himself a caustic critic who unerringly found the weak spots in human nature. Yet there was enough of humor in his work to lighten his caustic vein and to make it popular. His first dramatic effort, which was directed in favor of the Tory High Church party, was entitled *Dialogue Shewing the Way to Modern Preferment*. He was, from this time on, in favor with the court and the recipient of successive political preferments, among them the judge of the Admiralty Court in Ireland, vicar general of Armagh, and keeper of the records of Dublin Castle. These offices all left him plenty of time for his literary labors but he did not employ it to the best advantage. His undoubtedly great talents were often misdirected or not directed at all. His indolence went even to the neglect of the preservation and publication of his manuscripts, some of which were lost and others of which were not published during the lifetime of the author.

Among his published works are *A Journey to London in the Year 1698 and Useful Transactions in Philosophy and Other Sorts of Learning*, sparkling with humor and originality. It was not until more than half a century after his death that his works were published as a whole, that is, such as were still preserved. This edition was due to John Nichols, who issued it in three volumes in 1776.

KING, William, American politician, first governor of the State of Maine: b. Scarborough, Mass. (later Maine), Feb. 9, 1768; d. Bath, Maine, June 17, 1852. He was, during the greater part of his life, the last 50 years of which were passed in Bath, an active and successful merchant, but is better known by his public services. At an early period of his career he became a member of the Massachusetts General Court and later served as a senator, in which capacity he was distinguished by his efforts in behalf of religious freedom and of securing to original settlers upon wild lands the benefit of their improvements. He was an early and ardent advocate of the separation of Maine from Massachusetts, and upon the consummation of that act presided over the convention which met in 1819 to frame the constitution of the new state. He was subsequently elected the first governor of Maine, but resigned in 1821 to become one of the United States commissioners for the adjustment of Spanish claims.

KING, William Frederick, Canadian astronomer and surveyor: b. Stowmarket, Suffolk, England, Feb. 19, 1854; d. Ottawa, Ontario, April 23, 1916. The family emigrated to Canada in 1861 and he was graduated from Toronto University in 1875. He entered the employ of the Dominion government as land surveyor in the great Northwest, becoming finally chief inspector of surveys in 1886. Four years later he became chief astronomer of the Department of the Interior, in 1905 director of the Dominion Astronomical Observatory at Ottawa, and in 1909 superintendent of the Geodetic Survey of Canada. For this and other work for the encouragement of science he

was made a companion of St. Michael and St. George in 1908. He published *Astronomy in Canada* and many scientific papers.

KING, William Lyon Mackenzie, Canadian statesman: b. Berlin (now Kitchener), Ontario, Dec. 17, 1874; d. Ottawa, Ontario, July 22, 1950. At the time of his resignation, Nov. 15, 1948, he had been leader of Canada's Liberal Party for 29 years and prime minister for more than 21 years, a longer period in such office than had been attained by any other statesman in the history of the British Commonwealth. He was the son of a noted jurist, John King.

After obtaining degrees from the University of Toronto, King studied for four years (1896–1900) on fellowships at Chicago and Harvard universities. In 1900 he was called to Ottawa by Sir Wilfrid Laurier, then prime minister, to the post of deputy minister of labor (1900–1908). Elected to the Dominion Parliament, 1908, for North Waterloo, Ontario, he was chosen, 1909, to be minister of labor, and served for two years with conspicuous success in the adjustment of labor disputes; he was much sought after in the United States during World War I as industrial conciliator.

He became prime minister in 1921 and with brief intervals served as such through the years 1921–1930, and 1935–1948. He was president of the Imperial Privy Council and secretary of state for external affairs; and Canada's representative at the imperial conferences in London, 1923, 1926, and 1927, and at the League of Nations conferences in Geneva, 1928 and 1936. In August 1940 he concluded with President Roosevelt the Ogdensburg agreement for the study of common defense problems; and in April 1941 signed a pact of United States-Canadian cooperation in aid of Britain's war machine. He attended Allied war conferences in 1942 and 1943 and had a voice in certain of the Churchill-Roosevelt parleys in Washington and Quebec. In London, 1944, he persuaded the conference of empire prime ministers to accept Canada's wish that the British Commonwealth of Nations be continued along its present lines; and in 1945 he led the Canadian delegation at the San Francisco United Nations Conference on International Organization.

Mackenzie King's tenure of office was marked by three great objectives: first, the unity of Canada, in which he again showed his skill as a mediator in his shrewd handling of the French-Canadian problem; second, the complete autonomy of Canada, while preserving her historic associations (his period as prime minister witnessed the definite emergence of his country as a sovereign nation); third, the strengthening of friendly relations with the United States.

His most important published work, aside from his parliamentary addresses, is *Industry and Humanity* (Boston and New York 1918; abridged ed., Toronto 1935 and 1947); also *Canada at Britain's Side* (1941); and *Canada and the Fight for Freedom* (1944).

KING, William Rufus Devane, American statesman, 13th vice president of the United States: b. Sampson County, N. C., April 6, 1786; d. at his home near Cahaba, Ala., April 18, 1853. He was graduated from the University of North Carolina in 1803; studied law; was admitted to the bar in 1806; the same year was elected to the legislature, and was re-elected in 1809. In 1810

he was elected to Congress, and was twice re-elected. In Congress he united with Clay, Calhoun, and others who advocated the war policy of Madison's administration, and voted for the war declaration of 1812. In the spring of 1811 he resigned his seat to become secretary of legation at Naples under William Pinkney with whom he was transferred to St. Petersburg (now Leningrad) later that year. After his return in 1818 he settled in Alabama. In 1819 he was elected one of the United States senators from the new state, and was successively re-elected in 1823, 1828, 1834, and 1840. In April 1844 he was appointed minister to France. England was known to be decidedly opposed to the United States annexation of Texas, then pending, and it was believed that she was urging France to join in a protest against it. King directed his effort to prevent this joint protest and he was successful. He returned to the United States in November 1846. In 1848 Senator Arthur P. Bagby was sent as minister to Russia, and King was appointed to fill the vacancy thus created. In 1849, the term for which he was appointed having expired, he was elected for a full term of six years. In 1850, on the accession of Vice President Fillmore to the presidency, King was unanimously elected president of the Senate. In 1852 he was elected vice president of the United States. By special act of Congress he took the oath of office in Cuba, where he had gone for his health but was never able to serve.

KING, a person vested with supreme power in a foreign state, territory, or nation. According to feudal usages, the king was the source from whom all command, honor, and authority flowed, and he delegated to his followers the power by which they exercised subordinate rule or authority. There is now no very clearly marked distinction between a king and an emperor. A queen-regent, or a princess who inherited the sovereign power in countries where female succession to the throne is recognized, possesses all the political rights of a king.

KING CONCH, the great wing-shells of the genus *Strombus*, especially *S. gigas* of the W. Indies and *S. pugilis* of Florida. The larval helmet-shells (*Cassia*) of the same region are often called "queen conchs."

KING COTTON, a popular name given to cotton plant in the United States. "Cotton king" was a frequent declaration before the Civil War, when the supremacy of cotton in commerce and politics was strongly asserted by public men especially in the South.

KING CRAB. See HORSEFOOT CRAB.

KING CROW. See DRONGO.

KING DORY, a bird-dealers' name for Australian parrots of the genus *Aspromictus*.

KING DUCK, the spectacled eider. EIDER DUCK.

KING GEORGE V LAND, a name given to a part of the Antarctic Continent discovered by Sir Douglas Mawson in 1911 and explored by him in that and the following two years. It covers a very considerable extent of country, stretching as it does from

ong. 144° E. to 153° E.; and the whole region s covered by a great cap of ice.

KING GEORGE SOUND, an inlet of the Indian Ocean, located along the southwestern coast of Western Australia. Its width is 5 miles at its mouth, and its length is 10 miles. The port of Albany is on Princess Royal Harbour, one of the arms of the sound.

KING GEORGE'S WAR, the American phase of the War of the Spanish Succession (1744-1748), involving England and France. In the New World the fighting consisted principally of border action between the English and French colonists, with the Indian allies of the latter playing a prominent role. The most ambitious exploit of the war was the capture, in 1745, of the town of Louisburg in Nova Scotia by an expeditionary force of some 4,000 men from Massachusetts and other English colonies, led by Sir William Pepperell and assisted by the British fleet. The treaty of Aix-la-Chapelle returned the town to France three years later. The war, named after George II of England, was a conspicuously futile one which decided nothing while adding bitterness to the rivalry existing between the French and English settlers. See also **COLONIAL WARS IN AMERICA—1744-48**. *Third Intercolonial War: King George's War*; UNITED STATES—*The English Colonies in America, 1607-1763* (Anglo-French Rivalry).

KING HENRY THE FIFTH, the last of the tetralogy of history plays by William Shakespeare which began with *Richard the Second*; was foreshadowed by the Epilogue to Part II of *King Henry the Fourth* (q.v.) and uses the same sources as the other chronicles in the series. The play was probably begun in the fall of 1598; the Chorus to Act V with its reference to the Irish campaign of the earl of Essex could not have been written until the end of the following March; the reference to his success precedes his return in disgrace in September. No doubt production occurred in the spring or summer of 1599. The play was first published in a cut and pirated version in 1600 as *The Chronicle History of Henry the fifth, With his battell fought at Agincourt in France. Together with Auntient Pistoll. As it hath bene sundry times played by the Right honorable the Lord Chamberlaine his seruants*. Quartos of 1602 and 1619 (falsely dated 1608) have no better authority; the only sound text is that of the Folio of 1623.

With omissions and alterations for dramatic reasons, *Henry the Fifth* follows Raphael Holinshead's account of Henry's invasion of France, culminating in his triumph at the Battle of Agincourt (1415). The immediate treaty and preparation for marriage are Shakespeare's compression of the sieges and negotiations of the next five years. The wooing of Katharine, much enlarged, derives from *The Famous Victories of Henry the Fifth*, which also suggested a few minor scenes. To provide the bridges for the almost epic action, the playwright uses the device of the Chorus, here a single actor, who presents exposition and narrative connections and pleads apologetically that spectators use their imaginations to participate in the creation of "so great an object . . . within the girdle of these walls [the theater] . . . turning th'accomplishment of many years into an hour-glass."

Though he heightens and develops, juxtaposes and adds details, Shakespeare's view of the historical characters is essentially that of his sources. Dominating the action is the king himself. At various times readers, reinterpreting history in the light of other information or their own principles, have found Henry of Monmouth substantially a worldly man of action, his claims to France precarious and selfishly ambitious, his invasion unjustifiable, his nationalism mere chauvinism, but to historian Edward Hall he was "the mirror of Christendom," and to Elizabethans generally the glorious "star of England," a national hero. It is so Shakespeare pictures him. Having shown his growth to maturity in the earlier plays, the dramatist concentrates on scenes which exhibit his breadth: his courage is matched by his wisdom, his sense of justice by mercy, his geniality by dignity, and his leadership and his mundane success by good humor, humility, and piety. If as a lover he is something less than romantic, he is never the tyrant, and there is no reason why Katharine should have found her conqueror, arranging a politically expedient marriage, unattractive. Through Henry, the play emerges as a paean of patriotism at a time of English unity and power.

Since comedy was an essential element of the *Henry* series, Shakespeare could not do without it, even had he wished to, but despite the Epilogue already cited he could retain only part of his expectation about Falstaff. Perhaps because of a change in his actors, certainly because Sir John would interfere with both the characterization and the dominance of Henry, Falstaff had to go. He does not appear in person in *Henry the Fifth*; Shakespeare has his death reported in a touching farewell by Mistress Quickly, now married to Pistol. Pistol, Bardolph, and Nym cannot and do not take Falstaff's place but they serve, and their humor is supplemented by national types, soldierly banter, braggadocio both English and French, and the seriocomic courtship; the proportion seems just.

Henry the Fifth has been most popular on the stage in times of national stress. If the Spanish threat seemed just about over, Shakespeare could not but have been aware of the aptness of his play to the expedition in Ireland. That it was initially successful we know both from its piratical printing and a court performance on Jan. 7, 1605. Restoration and early 18th century notices are scanty but thereafter there have been frequent productions. John Philip Kemble, William Charles Macready, Samuel Phelps, and Charles Kean played the title role, with increasingly spectacular elements in their presentations. Richard Mansfield's 1900 performance in America was outstanding. Productions in this century have been numerous, especially in England. Among them are the fine film made by Sir Laurence Olivier (1946), a remarkable marriage of good Shakespeare and good cinema, and the production of the whole cycle at Stratford in the summer of 1951.

Bibliography.—The most useful modern edition of the play is that edited by J. Dover Wilson (Cambridge 1947); a revised edition by J. H. Walter in the Arden Shakespeare (Cambridge, Mass.) has been announced. For criticism, see the bibliography under **HENRY THE FOURTH**.

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KING HENRY THE FOURTH, the general name for two history plays by William Shakespeare, or, as some scholars consider, one play of two parts, forming the central portion of the tetralogy which opens with *Richard the Second* and concludes with *Henry the Fifth*. The question of the unity of the individual parts and of the whole group depends somewhat on whether Shakespeare deliberately planned the whole cycle or whether it grew by accretion, a problem currently much debated. Performances of the cycle at Stratford on Avon, England, in the summer of 1951 stressed continuity; critics, while agreeing that one history helps to interpret another, divided on whether the impression created was dramatically comprehensive or quadruple. In the early quartos—there were eight quartos in all—the first part of *King Henry the Fourth* (1623 folio) was called, with minor variations, *The History of Henrie the Fourth; With the battell at Shrewsburie, between the King and Lord Henry Percy, surnamed Henrie Hotspur of the North. With the humorous conceits of Sir Iohn Falstaffe*. The second part of *King Henry the Fourth* (Folio) was titled in the only quarto (1600) *The Second part of Henrie the fourth, continuing to his death, and coronation of Henrie the fift. With the humours of sir Iohn Falstaffe, and swaggering Pistoll*. The first quarto of the first part (1598) is the basic authority for the text; quarto and folio versions of the second part show considerable variations, with correction and revision in the latter. The composition of both parts is usually assigned to 1597-1598 with immediate production by the Lord Chamberlain's company.

Though Shakespeare may have in part derived his conception of history from Edward Hall, the principal source for his historical material was the *Chronicles* of Raphael Holinshed, which he follows fairly closely. He does, however, make various changes in chronology and in the juxtaposition of his characters for dramatic reasons. Some of the comic material, such as the highway robbery and the rehearsal of the pending interview between Hal and his father, was suggested by an old play, *The Famous Victories of Henry the Fifth*, which limns the prince's reckless youth and introduces a riotous companion, Sir John Oldcastle. For his fat knight, indeed, Shakespeare at first adopted the name of Oldcastle, as is shown in Part I by Act I, scene 3, line 47 and in the Epilogue to Part II, but when there was objection to the misrepresentation of a man who was both a brave soldier and a religious martyr, the dramatist substituted the name, slightly altered, of another historical character who had once been the owner of the Boar's Head Tavern, Sir John Fastolfe. Needless to say, the character is Shakespeare's own.

Historically, Part I deals with the revolt of Hotspur (Henry Percy, the son of the Earl of Northumberland), allied with Scottish forces under Archibald, Earl of Douglas, and Welsh under Edmund Mortimer, against Henry IV, and his defeat by the king and his son, Prince Hal, at the Battle of Shrewsbury (1403). In the play, Hal is shown in relation both to the martial and political events and characters, and to a group of lively companions with whom he pranks and sows his wild oats. Part II covers some of the next 10 years, the crushing of further rebellion, the death of Henry IV, and the accession of Hal as Henry V. Comic incidents con-

tinue with the addition of other characters and culminate in the dismissal of Falstaff by the now thoroughly responsible new king.

Hal is the central figure, a very human and likable young man whose facets of character are reflected by a variety of associates, brilliantly characterized, none more so than his expedient father and the impetuous Hotspur. He is, in these plays, on the way to becoming Shakespeare's ideal king. Nonetheless, it is Sir John Falstaff, the coward and the cheat, the toper and wench, who by his wit and gusto has paradoxically usurped the admiration and affection of readers, and theatergoers alike. He has been variously interpreted, from the time of Maurice Morgann's famous though misleading essay of 1777, but no one doubts that his importance to the plays in relation to other characters is proportionate to his bulk in contrast to that of other men. He has become the supreme example not of the friend to be trusted in emergency, but of the boon companion of one's softer hours. "I am," he says truly, "not only witty in myself, but the cause that wit is in other men." It is no wonder Shakespeare had to promise in the Epilogue to Part II that if the public were not "too much cloyed," he would continue the story "with Sir John in it."

Such a play, or plays, with an interest both historical and comic, inevitably has had an enormous stage history. Originally popular, as the early editions and references to it make clear, the first part especially has been the delight of both actors and audience. Thomas Betterton played both Hotspur and Sir John. James Quin and John Henderson were famous 18th century Falstaffs. Later Charles Kemble, Edmund Kean, and William Charles Macready impersonated Hotspur—note that stars preferred the dashing Hotspur to the morally questionable prince—and George Frederick Cooke and Samuel Phelps, Falstaff. In America James Henry Hackett acted Sir John during a forty-year period. There have been many modern revivals, here and abroad. Maurice Evans as Falstaff under Margaret Webster's direction in 1939 and the remarkable productions of both parts by the Old Vic Company in 1946, with Sir Laurence Olivier as Hotspur and Justice Shallow, and Sir Ralph Richardson as Falstaff, are among New York City's cherished memories.

Bibliography.—The elaborate variorum editions by S. B. Hemingway (Part I) and M. A. Shaaber (Part II) (Philadelphia 1936, 1940) contain both text and full criticism. J.—Dover Wilson's editions of both parts (Cambridge 1946), and G. L. Kittredge's and R. C. Bald's of the first part (Boston 1940; New York 1946) are briefer and less expensive. Valuable criticism will be found in Tillyard, E. M. W., *Shakespeare's History Plays* (New York 1946); Wilson, J. Dover, *The Fortunes of Falstaff* (Cambridge 1944); Palmer, John Leslie, *Political Characters of Shakespeare* (London 1935); Campbell, Lily B., *Shakespeare's Histories: Mirrors of Elizabethan Policy* (San Marino 1947); Nicoll, Allardyce ed., *Shakespeare Survey*, vol. 6 (Cambridge 1953).

ROBERT HAMILTON BALL.

KING HENRY THE SIXTH, the general title of three plays, or one play in three parts published in the first collected edition of William Shakespeare's dramatic work, the Folio of 1623. Seldom read except by the professed specialist and even more seldom acted before the public, they are among the most puzzling in the Shakespearean canon and have occasioned much controversy among those scholars who have investigated them in detail. Among the questions of dispute are

quence of composition, and authorship. Causes of argument lie in the uneven quality of the plays themselves; the imperfectly assimilated and joined material; contradictory styles and references; a text by Philip Henslowe in his *Diary*; and an acknowledgment in *A Groatworth of Wit* by a contemporary playwright, Robert Greene, variously interpreted as expressing scorn of Shakespeare, the actor, and as an accusation of plagiarism against Shakespeare, the dramatist. Some advances toward solutions have been made in recent years, but it cannot be said that the problems have been settled. It is sufficient here to indicate that the tendency now is to see the plays less as mere visions of the work of other men—especially Greene, though George Peele, Thomas Nash, and Christopher Marlowe have been named—and more as substantially Shakespeare's, with or without interlayers by other hands. The plays must have been recognized in the theater and by Shakespeare's fellow actors as essentially Shakespeare's; they would not have been included in the Folio. Beyond that, the present writer's attitude is firmly and cheerfully agnostic on the ground of a Scotch verdict of "Not proven."

At any rate all the plays were early ones in Shakespeare's career. Greene's allusion shortly before his death in September 1592 makes clear that Part III was on the stage in that year, and that Part II probably stems from 1591. Evidence has been adduced but not universally accepted that Part I was composed in its present form after the other parts as a kind of preamble for the inclusion of the early years of Henry's reign and to take advantage of the success of the other plays. Henslowe records a "Harey the vij" as "ne" (that is, new) in the spring of 1592; it is not clear to what he refers. Thomas Nash in *Pierce Penitence* (1592) makes unmistakable reference to Part I. Part I was not printed until the Folio, which contains the only substantive text. Two plays, parallel to Parts II and III, *The First Part of the Contention betwixt the two famous Houses of Yorke and Lancaster . . .* and *The true Tragedie of Richard Duke of Yorke . . .*, first printed respectively in 1594 and 1595 and once held to be sources which Shakespeare adapted, are now fairly generally accepted as piratical versions of the plays later published in the Folio. The historical sources for all three plays are the chroniclers, chiefly Raphael Holinshed and Edward Hall, whose somewhat biased accounts are very freely adapted in order to compress a long stretch of years into the compass of the dramatic form.

King Henry the Sixth, together with *King Richard the Third*, forms a tetralogy which deals with the loss of the French possessions gained by Henry V, the disintegration of the English kingdom by factionalism resulting in the Wars of the Roses, and the final victory of Lancastrianism over the Yorkists. All the plays are episodic and difficult to follow. Part I is chiefly concerned with the struggle in France, with Lord Talbot and the English pitted against the French and Joan La Pucelle (Joan of Arc). Talbot is a heroic figure who falls in battle; correspondingly, Joan of Arc is depicted not as a French saint but as a witch and courtesan who deserved her death at the stake. Accompanying this action are the evident weakness of Henry VI—though not so drawn, he was only nine months old at the time the play opens—the faction of the king's uncles, the duke of Gloucester and the bishop of

Winchester; and the rise of Richard Plantagenet, Duke of York. The play ends with the negotiations for the marriage of Henry to Margaret of Anjou, and covers historically the period from 1422 to 1444. Parts II and III deal with the Wars of the Roses. Part II extends from the royal marriage through York's struggle for the crown, the overthrow of Humphrey, Duke of Gloucester, the Jack Cade Rebellion, and culminates in York's defeat of the king at St. Albans (1455). In Part III, the protagonist is really Queen Margaret. When Henry yields the succession to the York family, thereby disinheriting her own son, she battles with Richard, who is defeated and slain. The latter's sons, Edward, George, and Richard, duke of Gloucester (later Richard III), are in turn triumphant; Henry and Margaret flee, and Edward becomes Edward IV. Though Henry is reseated, Edward again triumphs, and Henry is confined to the Tower. The queen's forces are defeated at Tewkesbury; her son is murdered by the Yorkist brothers, and Henry by Gloucester, as Edward resumes the throne (1471). Of the three plays, Part I is clearly the worst and Part II probably the best. There is some fine but spotty characterization interlarded with poetry of varying merit, but the plays have not been of much interest to the modern reader.

Philip Henslowe cited 16 performances of "Harey the vij" in 1592 and 1593. Part I was revived at Covent Garden for one night in 1738 and then not until the Stratford Festivals of 1889 and 1906. On the last occasion Frank Benson produced all three parts. Robert Atkins in 1923 produced a combination of Part I and half of Part II at the Old Vic, and the three parts were included in performances of all Shakespeare's English histories in 1935 at the Pasadena Community Playhouse. Parts II and III were presented by the Birmingham Repertory Theatre in 1951 and 1952 respectively; the latter production was also given at the Old Vic in 1952. There have been several unimportant alterations. The paucity of the record and the lack of enthusiasm with which *King Henry the Sixth* has been greeted by audiences tell their own story.

Bibliography.—The best edition of the plays is by John Dover Wilson. 3 vols. (Cambridge, Eng., 1952), which contains full but controversial commentary, and bibliography, with stage histories by C. B. Young. A new edition by A. S. Cairncross is announced for the revised Arden series (Cambridge, Mass.). See also Alexander, Peter, *Shakespeare's "Henry VI" and "Richard III"* (Cambridge 1929); Tillyard, E. M. W., *Shakespeare's Historical Plays* (New York 1944); Nicoll, Allardyce, ed., *Shakespeare Survey*, vol. 6 (Cambridge 1953); Prouty, C. T., *The Contention and Shakespeare's 2 Henry VI* (New Haven 1954).

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KING HENRY THE EIGHTH, a spectacular history play, first published in the 1623 Folio edition of the plays of William Shakespeare. It is a good text, marked by elaborate stage directions, and is the only substantive authority for later editions. Despite some recent arguments for single authorship, internal evidence of style points strongly to collaboration of one kind or another between Shakespeare and John Fletcher, with whom Shakespeare was also working on other plays at the date of composition, perhaps at the time of his retirement to Stratford. Since 1850, most scholars have accepted as Shakespeare's Act I, scenes 1 and 2 (*Wolsey v. Buckingham*); Act II, scenes 3 and 4 (Anne's elevation and Katherine's trial); Act III, scene 2 (lines 1-203, the turn in Wolsey's fortunes); and Act V, scene 1

(the birth of Elizabeth) with perhaps traces elsewhere. The bulk of the play, though not necessarily its planning, is therefore by Fletcher. The lack of unity in structure and characterization is accounted for partly on the basis of collaboration, partly on the disparities in Raphael Holinshed's *Chronicles*, followed closely for the first four acts, and John Foxe's *Actes and Monuments*, which supplies material for the fifth.

The play, under an alternate title of *All is True*, is called "new" in a letter to Sir Edmond Bacon from Sir Henry Wotton, July 2, 1613, describing the "many circumstances of pomp and majesty" of its performance by the King's Men on June 29. One of the "circumstances" resulted in the burning of the Globe playhouse: "Now King Henry making a masque at the Cardinal Wolsey's house, and certain chambers being shot off at his entry [Scene I, l. 4, 49], some of the paper, or other stuff, wherewith one of them was stopped, did light on the thatch, where being thought at first but an idle smoke, and their eyes more attentive to the show, it kindled inwardly, and ran around like a train, consuming within less than an hour the whole house to the very ground . . . yet nothing did perish, but wood and straw, and a few forsaken cloaks; only one man had his breeches set on fire, that would perhaps have broiled him, if he had not by the benefit of a provident wit put it out with a bottle of ale." Completion of composition must have occurred not long before this memorable occasion. *King Henry the Eighth* is therefore one of the latest plays in which Shakespeare had a hand.

Historically, the events of the plot cover the period from the Field of the Cloth of Gold (1520), referred to in Act I, scene 1, to Archbishop Cranmer's trial (1544), presented in Act V, scene 3. There are a number of changes in order for dramatic reasons; for instance, the christening of Elizabeth (1533) with the prophecies for the future is put last. It cannot be said that the playwrights have succeeded in welding history and drama. Holinshed's treatment of the reign of Henry VIII is itself untrustworthy and contradictory; his Cardinal Wolsey is a combination of different attitudes; his Henry, hearty and conscientious, is conventionally drawn. So these characters emerge in the play. On the other hand separate scenes, enhanced by carefully projected pageantry, are strikingly effective. Indeed, the play is less a chronicle play than others by Shakespeare which have kingly titles, and more an elaborate show through which nominally historical personages move with pathos, celebration, and poetry in courtly and religious intrigues. It is only fair to Fletcher to say that some of the best things are his.

Despite its artistic deficiencies, the pictorial quality of the play has made it popular on the stage. It was probably played at Blackfriars, the original setting for the Queen's trial, and there was a revival at the rebuilt Globe in 1628. Richard Burbage, Henry Condell, and John Heming played in it originally; according to the unreliable John Downes, John Lowin, who acted Henry, was instructed by Shakespeare. A sumptuous production in 1663 had Thomas Betterton as the king and his wife as Katherine. Barton Booth played the title role in 1727, the coronation year of George II, and John Philip Kemble revived the play in 1788 with Mrs. Sarah Siddons as the unfortunate queen. Kemble afterwards (1806) impersonated Wolsey, and later actors.

Charles Kean (1855), Henry Irving (1892), and Sir Herbert Beerbohm Tree (1910; in the United States, 1916) preferred this part. American revivals have included Edward Loomis Davenport, John McCullough, Edwin Booth, Lawrence Barrett, Charlotte Cushman, and Helena Modjeska. More recent performances have involved Dame Sybil Thorndike (1925), Charles Laughton (1933), and Walter Hampden (1946). Tyrone Guthrie's production at the Shakespeare Memorial Theatre, Stratford, in 1950 was a great success and recast, was revived at the Old Vic during the coronation year of Elizabeth II, who attended Coronation celebrations were also marked by the first presentation of *King Henry the Eighth* in equatorial Africa, where the play was staged in the National Theatre, Nairobi, Kenya colony.

Bibliography.—There is no up-to-date single volume edition of the play. Useful texts are the Yale Shakespeare edition, ed. by John M. Berdan and C. F. Tucker Brooke (New Haven 1925), and the Arden Edition, ed. by C. K. Pooler, rev. by R. H. Case, gen. ed. (London 1936). Good text and commentary may be found in the edition edited by Hardin Craig, *Complete Works of Shakespeare* (Chicago 1951). For further commentary see Knight, G. Wilson, *The Crown of Life* (London 1948), but on authorship, Partridge, A. C., *The Problem of Henry VIII Reopened* (Cambridge, England, 1949).

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KING ISLAND, the name of several islands, including the following:

(1) An island at the western end of Bass Strait, about 50 miles northwest of the Australian island of Tasmania, south of the Australian continent. It is about 42 miles long and 16 miles wide. Tungsten and tin are mined there, and much of the island is fertile.

(2) One of the large islands of the Mergu Archipelago in the Andaman Sea, west of the southern extremity of Burma. It is about 40 miles long and predominantly mountainous, rising at one point to an elevation of 2,125 feet. It has rubber plantations and manganese deposits.

(3) A small island at the southern end of the Bering Strait in Alaska. West of the Seward Peninsula, it has a small population of Eskimos, most of whom hunt walrus. It was discovered by Captain Cook in 1778.

(4) An island in British Columbia, about 40 miles long and 10 miles wide, located directly south of the town of Ocean Falls. The island is carved out of the mainland by the Dean and Burke channels.

KING JOHN, a chronicle play by William Shakespeare published in the Folio of 1623; *The Life and Death of King John*, was mentioned by Francis Meres in his *Palladis Tamia: Wits Treasury* in 1598. Its source is an anonymous dramatic treatment of the same subject, *The Troublesome Raigne of Iohn King of England*, first printed in 1591. There is no clear external evidence for the time of composition of Shakespeare's play; though there may have been earlier revision, scholars generally accept 1594-1596 as the date of the published form of *King John*, largely on the bases of stylistic resemblances to *Richard the Second*, and its suitability for Lord Chamberlain's Company.

The Troublesome Raigne, though only lines longer than Shakespeare's play, was in two parts; its condensation of Raphael Holinshed's chronicle provided Shakespeare with the plot:

general structure; *King John* is the only one of Shakespeare's histories for which he used a dramatic source and did not work directly from the chronicles themselves. Part of his task was therefore already done for him. Yet *King John* is a different and much better play than *The Troublesome Raigne*. The earlier work is heavy in detail, mixed and mediocre in style and language, chauvinistic and violently anti-Catholic in sentiment, in line with the tradition which regarded John as a national British hero in his refusal to bow to Rome. Shakespeare cuts and condenses events of the reign, expands incidents for dramatic effect, completely rewrites the verse, and adopts an attitude of rather dispassionate objectivity with regard to the national and religious controversies. Most of all, he changes the characterization. Shakespeare was not enthusiastic about the king and shows his wickedness and weaknesses at the same time as raising Faulconbridge, the Bastard, from swaggerer to clear-eyed champion of England; he develops Arthur, heir to the throne, into a pathetic figure, and emphasizes his mother's concern and sufferings; in short, he humanizes his persons and writes for them scenes which exhibit them under the stress of emotions.

Nevertheless, if his characterization is sharp, it somewhat lacks warmth. As a whole, *King John* is able rather than great, as if Shakespeare used his skill for deliberate contrivance rather than because his feelings and imagination were deeply aroused. He presents clearly and effectively the conflicting authority of John and Arthur, the ruler of England, the war with France, the cruel plan to murder Arthur which miscarries because of Hubert's compassion, the disaffection of the nobles, and the deaths of the rival claimants, but the whole is not fused because the fire is not there. The reader admires but seldom succumbs.

Evidently the play acts better than it reads. There is little evidence of original popularity and it was not revived under the Restoration, but from 1737 in England and 1768 in America it was frequently on the stage. The parts of John, Faulconbridge, and Constance attracted such actors and actresses as David Garrick, Suzanna Cibber, John Philip Kemble, Sarah Siddons, William Charles Macready, Samuel Phelps, Henry Irving, and Beerbohm Tree, and in the United States the Booths and the Vandenhoffs. No longer so popular, it is still occasionally revived, especially for Shakespeare festivals.

Bibliography.—Though the play is in the Variorum series, ed. Horace Furness, Jr. (Philadelphia 1919), the best modern text is John Dover Wilson's (Cambridge 1936), which has full commentary, and a stage history by Harold Child. A new edition is announced, ed. E. Honigmann, in the revised Arden Shakespeare (Cambridge, Mass.). See also Tillyard, E. M. W., *Shakespeare's History Plays* (New York 1946), and Campbell, Lily B., *Shakespeare's Histories* . . . (San Marino 1947).

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KING LEAR, the vastest and most profound of the tragedies of William Shakespeare, was entered in the Stationers' Register on Nov. 26, 1607 as . . . his historie of Kinge Lear, as yt was played before the Kinges maiestie at Whitehall vppon Sainct Stephens night at Christmas Last, by his maiesties seruantes playinge vsually at the Globe on the Bankside, and published in quarto the following year. The court performance of Dec. 26, 1606, and borrowings from Samuel Harsnett's *Declaration of . . . Popishe Impostures* (1603) indicate composition between those

dates. Its relationship to an old and quite different play, *The True Chronicle History of King Leir*, published in 1605, and other subsidiary evidence make 1605–1606 the most probable time of writing.

The text of *King Lear* is a bibliographical puzzle and notwithstanding elaborate scrutiny is still a matter of controversy. Despite proper entry, the 1608 Quarto, though based upon manuscript, probably a derivation from Shakespeare's somewhat illegible foul papers, was also partially the result of memorial reconstruction; in addition, the sheets were corrected as they went through the press, and corrected and uncorrected pages were bound up together with the result that no two surviving copies are exactly alike. Another quarto bearing the date of 1608 was actually not printed until 1619. The text printed in the Folio of 1623 adds 100 lines, omits 300 lines, and is otherwise different. Allowing also for revision, the Folio text was based on the Quarto of 1608, as corrected or interleaved by some sort of playhouse copy. As a result of this confusion, modern texts are eclectic and different from each other; there is not yet a textually satisfactory edition of *King Lear*.

The Lear story, which embodies folk material, is an old one, widespread by Shakespeare's time. Written down in Geoffrey of Monmouth's *Historia Regnum Britanniae* (c.1135), it was subsequently retold in poem, chronicle, and drama. In addition to Geoffrey, Shakespeare used Raphael Holinshed's *The Mirror for Magistrates*, William Camden's *Remains*, Edmund Spenser's *The Faerie Queene*, and the old *Leir* chronicle play. Shakespeare was responsible for making the story the tragedy of King Lear, whom he causes to go mad; he added the Fool; and he enforced the theme of filial ingratitude by including a second plot based on the tale of the blind king of Paphlagonia in Sir Philip Sidney's *Arcadia*. This supplementary action of Gloucester, Edmund, and Edgar provides dramatic event when Lear himself becomes largely passive, introduces agents for the removal of the wicked daughters, and permits the enlargement and universalization of the theme to a titanic war between good and evil, in which a convulsed Nature participates.

Out of this concatenation of materials and Shakespeare's imaginative re-creation has emerged one of the great masterpieces of English drama, awe-inspiring in its impact, cumulative in its effect. To say that it deals with a rash old king who divides his kingdom between his daughters according to their expressions of affection for him; who finds that the two who say the most are heartless and that Cordelia, relatively silent and therefore disinherited, loves him and succors him; who himself learns the meaning of love through suffering and madness, and dies because he learned too late; to say that it also deals with another man, the earl of Gloucester, who also misunderstands the true nature of his two sons and pays with his eyes—all this is to convey little of the quality of *King Lear*. For embedded in the complex plot are characters, huge and elemental, who unleash evil and see good devoured by it, who suffer out of all proportion for their pride and misjudgment, who are sanest when mad, and most perceptive when blind. The play is constructed on a vast scale, and its implications are far-reaching. Plot, characters, passions, ideas, the view of man in his world are blended in poetic expression, now agonizingly

simple, now profoundly probing, but always imaged by the sure hand of a great artist. *King Lear* plumbs the depths; its own depths cannot be sounded.

Nineteenth century criticism considered *King Lear* too huge for the stage, a misconception fostered by the attempt to confine so expansive a play within the framework of the proscenium arch. It was not so in Shakespeare's theater, as court performance shows. But the Restoration thought the play disorderly, and neoclassic doctrine and the picture-frame stage abetted the view. Nahum Tate's dreadful perversion of *King Lear* in his adaptation of 1681 superseded in one form or another Shakespeare's original for 150 years, and involved Thomas Betterton, David Garrick—a great Lear despite the mangling—John Philip Kemble, and Edmund Kean. It was William Charles Macready who first toppled Tate and restored something like the true play in 1838; and Samuel Phelps, Edwin Forrest, the Booths, Tommaso Salvini, and Sir Henry Irving followed him in this respect, though like him with structural alterations. Theatrical critics admired the acting; literary critics, betrayed by the proscenium conventions, created an artificial dichotomy between *King Lear* in the study and *King Lear* on the stage. But Shakespeare wrote his play for the stage, and in our times it has been widely revised, if not always with success, at least with the understanding that despite its difficulties it is great drama meant for the theater. Lately *King Lear* has been presented in England, France, South Africa, Switzerland, Germany, Belgium, the Scandinavian countries, the USSR, Australia, Canada, the United States, and elsewhere. It is not surprising to find a review in an English annual of "Four Lears" (*Shakespeare Survey*, I, pp. 98-102). Among recent Lears have been John Gielgud, Laurence Olivier, Donald Wolfit (New York 1947), Michael Redgrave, and Louis Calhern (New York 1950).

Bibliography.—The Variorum edition of *King Lear*, ed. H. H. Furness (Philadelphia 1880), is full but out of date. Recent modern texts are edited by G. I. Duthie (Oxford 1949) and Kenneth Muir (Revised Arden, Cambridge 1952); less expensive is R. C. Bald's (New York 1949). Valuable criticism from various points of view will be found in Bradley, A. C., *Shakespearean Tragedy*, 2d ed. (London 1905; often reprinted); Granville-Barker, Harley, *Prefaces to Shakespeare*, Vol. I (Princeton 1946); Heilmann, R. B., *This Great Stage* . . . (Baton Rouge 1948); Danby, John F., *Shakespeare's Doctrine of Nature* . . . (London 1949); Lothian, John M., *King Lear* . . . (Toronto 1949); Harrison, G. B., *Shakespeare's Tragedies* (London 1951); James, D. G., *The Dream of Learning* . . . (Oxford 1951).

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KING MONKEY, *Colobus polykomus*, a species of guereza (q.v.) found in Sierra Leone and Liberia. Known also as the ursine guereza, it is black in coloring, with white whiskers, forehead band, and tail.

KING NUT, *Carya laciniosa*, the big or bottom shellbark hickory. The tree has shaggy bark and oblong lanceolate leaflets, generally seven in number. The nut is ellipsoid or subglobose and obscurely four-angled, and has thick yellowish or reddish shells. The kernel is sweet.

KING-OF-ARMS, an officer in the heraldic establishment of a country. In England the officers of arms comprise kings-of-arms, heralds,

and pursuivants, who are members of the Herald's College. The three kings-of-arms are Garter King-of-Arms, Clarenceaux King-of-Arms, and Norroy King-of-Arms.

KING OF THE MACKERELS, either of two large ocean sunfishes (see **SUNFISH**), *Ranzania truncata*, a widely distributed species of the Atlantic Ocean, or *Ranzania makua* of the Pacific.

KING OF THE MULLET. See **CARDINAL FISH**.

KING PENGUIN. See **PENGUIN**.

KING PHILIP'S WAR, the bloodiest of the 17th century wars between the American colonists and the Indians. It takes its name from Philip (Indian: Metacom), chief of the Wampanoag tribe. Though this tribe, under Philip's father, had been friendly to the settlers for a number of years, Philip appears to have been secretly planning the extermination of the colonists. When an informant among the Indians reported this plot to the English, Philip had him killed. The colonists promptly executed his murderers and retaliations and counter-retaliations soon mushroomed into full-scale hostilities.

The numerically superior settlers quickly defeated the Wampanoags and forced Philip to take refuge with the independent, hostile tribes of the interior. From that time, early in 1675, until the death of Philip, on Aug. 12, 1676, the Indians conducted a series of raids on the New England frontier towns which were never to be equalled in their ferocity. The tribe known as the Nipmucks, of western Massachusetts, completely destroyed at least 12 settlements in that area and burned a number of others, giving little quarter wherever they struck. The war ended after the near-annihilation of the Narragansetts in Rhode Island in the winter of 1675-1676 and several decisive defeats of the Nipmucks during the following spring. See also **COLONIAL WARS IN AMERICA—1675**. *King Philip's War*.

KING RAIL. See **RAILS AND RAIL SHOOTING**.

KING RENE'S DAUGHTER (**KONG RENÉ'S DATTER**). Henrik Hertz's lyrical drama, *King René's Daughter*, was written in 1845. Besides *Svend Dyrings Hus* it is the best known of all the dramas, about 40 in number, by this Danish author. The play met at once with great success and has been translated several times into German and English, also into Polish and Spanish. It is based on an event in the life of René, king of Provence in the 15th century, celebrated as a troubadour. His daughter, Yolande, married Tristan. In the play Yolande is blind, and the plot turns on her being awakened by Tristan and informed of her blindness, of which she has been brought up in ignorance, on the very day when such a proceeding was necessary to the recovery of her sight by the arts of a Moorish physician. *King René's Daughter* is an exceedingly beautiful poem, as effective on the stage as psychologically interesting and charming by the grace and glow of the language. To those who can read the Danish original the fascination lies principally in the fine, chivalrous tone of the style, the lyric soaring of the expressions, the courteous and

hoice language. "It is a dainty piece of dessert or fastidious palates," as Brandes says in his critical analysis of the play. It is not to be criticized, but read or heard and enjoyed. Peter Ilich Tchaikovsky, in the opera *Yolande*, has used this poem for a libretto. There is an English translation by Theodore Martin.

GISLE BOTHNE

KING RICHARD THE SECOND, the first of the tetralogy of chronicle plays by William Shakespeare which includes the two parts of *King Henry the Fourth* and *King Henry the Fifth*, published as *The Tragedie of King Richard the Second* in six quartos, dated 1597, 1598 (2), 1608, 1615, and 1634. The First Quarto is a good text, and each later quarto was set from the one immediately previous. The deposition scene (Act IV, scene 1) first appears in the 1608 edition in a reported version; probably it had been censored earlier for reasons which will appear hereafter. The text in the Folio of 1623 was printed from a prompt book made up from the third and fifth quartos and includes a corrected version of the deposition scene. Borrowing from Samuel Daniel's *Civil Wars* and a contemporary letter confirm 1595 as the date of composition. So numerous are Shakespeare's sources that some editors postulate an earlier play which drew some of them together. There were earlier plays on the reign of Richard II, but extant ones do not resemble Shakespeare's, and the supposition seems, in the light of our knowledge of Shakespeare's reading, unnecessary. His basis of information and suggestion is mainly the *Chronicles* of Raphael Holinshead, though he evidently consulted other historians as well and felt free to take some liberties with fact in the interest of dramatic effect. There are obvious resemblances to Christopher Marlowe's play, *Edward the Second*.

Elizabethans saw certain analogies between the reigns of Richard II and their queen. Perfectly loyal supporters were not unaware that she enjoyed flattery and that some of her advisers were untrustworthy. Elizabeth resented the implications of their hints. On one occasion she was moved to remark, "I am Richard II, know ye not that?" Disaffection was not unwilling to take advantage. On the eve of the abortive rebellion of the then disgraced earl of Essex, one of his adherents persuaded the reluctant Lord Chamberlain's company to revive a play "of the deposing and killing of King Richard II." There can be little doubt that it was Shakespeare's work which was presented on Feb. 7, 1601. There is nothing treasonable in *King Richard the Second*, but it portrays treason, and the occasional use of it was. The persuader was tried and executed; neither Shakespeare nor his company suffered harm. Nevertheless the supposed analogies probably account for the failure to print the deposition scene until the time of James I.

King Richard the Second is both a chronicle play and a tragedy. It deals with the reign of an English king in whose history Elizabethans were interested. But it makes no attempt to cover the reign; it is concerned with the period from April 29, 1398 to January 1400, less than two years. The emphasis therefore is on Richard's downfall and the causes which led to it. On another level it treats a problem of great fascination to the 16th century, the conflict between a king who rules by clear title and divine right but who is incompetent, and an aspirant who can make no

such claims but who is capable and nationally valuable. The problem is not resolved in the play—it continues through the tetralogy and indeed Shakespeare's other one as well—but it is embodied in the central conflict between Richard of Bordeaux and Henry Bolingbroke and the kind of men they are. Bolingbroke is clear-eyed, efficient, a political opportunist who takes advantage of the outrageous injustice meted out to him to take the throne. Richard is more complicated. The king is willful, unstable, wasteful, and childishly tyrannical, and stands on his prerogatives rather than his abilities; he is a sentimentalist who dramatizes his dreams of himself; his own character carries his royal doom. On the other hand he is personally attractive, adored by his wife and servants, an artist both in his histrionics and his mastery of lyrical utterance. If he martyrs himself, he is nevertheless a martyr, and our sympathy goes to him. It is his tragedy which concerns us personally; it is his which Shakespeare sings in a play of sharp design and exuberant poetry.

The play originally must have been unusually popular, as the number of editions shows. Elizabeth herself spoke in 1601 of 40 performances. It was probably played in 1607 on an English ship on the high seas, and the Quarto of 1608 indicates it was "lately acted by the Kinges Majesties seruantes at the Globe." There was a revival in 1631. The Restoration and 18th century saw few performances, and these in adaptations. In the 19th century it was occasionally acted in one form or another by Edmund Kean, the Booths, and William Charles Macready, and for a considerable run by Charles Kean. Sir Herbert Beerbohm Tree was successful with a spectacular production in 1903. In the 1930's there was a clear emergence of popularity with leading representatives being John Gielgud (1937), and Maurice Evans, who in Margaret Webster's production in the same year achieved 171 performances in New York City. Other cities which have witnessed the play recently are London, Stratford on Avon, Birmingham, Liverpool, Dublin, Toronto, Sydney, Avignon, Milan, and Zurich.

Bibliography.—The best text with commentary is edited by John Dover Wilson (Cambridge 1939); the Variorum edition by Matthew W. Black is in process; an inexpensive one is Theodore Spencer's (New York 1949). For discussion see Tillyard, E. M. W., *Shakespeare's History Plays* (New York 1946); Campbell, Lily B., *Shakespeare's Histories* . . . (San Marino 1947); Palmer, John, *Political Characters of Shakespeare* (London 1948); Nicoll, Allardyce, ed., *Shakespeare Survey*, Vol. VI (Cambridge 1953).

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KING RICHARD THE THIRD, a chronicle play by William Shakespeare which constitutes the sequel to the three parts of *King Henry the Sixth*, was first published in 1597 as *The Tragedy of King Richard the third. Containing, His treacherous Plots against his brother Clarence: the pittieful murthur of his innocēt [sic] nephewes: his tyrannicall usurpation: with the whole course of his detested life and most deserved death. As it hath bene lately Acted by the Right honourable the Lord Chamberlaine his seruants.* Though properly entered in the Stationers' Register, the text is a curious one, evidently based on an abridged manuscript involving memorial reconstruction. Later quartos in 1598, 1602, 1605, 1612, 1622, 1629, and 1634 are

printed from each other and derive ultimately from the text of 1597. The version in the Folio of 1623 has 230 lines not in the quartos, omits 40 lines found therein, and in other respects differs; it clearly has independent and better authority. It seems to have been printed from a copy of the Sixth Quarto which had been corrected by reference to a playhouse document, probably a defective Shakespeare autograph, which had been patched by sections of the Third Quarto. The play in both style and subject follows closely upon *King Henry the Sixth*, and was probably composed in 1592 or 1593.

Shakespeare's sources, in addition to material taken from the play which appeared in garbled form in 1594 as *The True Tragedy of Richard the Third*, were the chronicles of Edward Hall and Raphael Holinshed. The conception of Richard which Shakespeare obtained from them reflects the Lancastrian bias of Polydore Vergil and the life of Richard attributed to Sir Thomas More. Richard's conqueror was Queen Elizabeth's grandfather, and it was the fall of the house of York which ended the War of the Roses, established the Tudors on the throne, and made her reign possible. It is, however, a tribute to Shakespeare that his elaboration of the character, however distorted, still provides the common view of Richard, for no one today except the professed specialist reads the Tudor historians. His Richard may be inaccurate, but he is compellingly real.

Indeed, the unity of the play is achieved partly by the historical conception. It covers the fourteen years from 1471 to 1485, but Richard dominates the events and engineers most of them. Something of both those events and his part in them are suggested by the title page already quoted. He is a hero-villain embodying, too, what Shakespeare had learned in his early career from the technique and characterization of Thomas Kyd and Christopher Marlowe, and, partly through them, of Seneca and Machiavelli. He is the virtuoso in villainy. Distinguished by his courage, his intellect, his resourcefulness, and his energy, he triumphs over his physical deformity by his candid pride and his insolent wit, and for conscience he substitutes craftiness, strength, and ruthless cruelty. Other people are pawns to be moved at his will. Lion and fox, he surmounts all obstacles until he reaches the throne. But there is another kind of unity too, which embraces not only this play but the whole tetralogy, the idea of nemesis, of a divine justice which will restore England, rent by faction, to unity, peace, and prosperity. Many of Richard's opponents were no better than he, only less successful. The moral ideas, therefore, are included here in scenes of deliberate formality, such as the foreshadowing curses and the retributive ghosts. The victory of the almost uncharacterized Richmond, who was to become Henry VII, represents the triumph of order over the chaos of diabolism, and the end of the play is a paean of patriotism.

King Richard the Third is not one of Shakespeare's masterpieces. If it shows an advance over *King Henry the Sixth* in conception and unity, and in the skill of the central characterization, poetry frequently yields to rhetoric, and oversimplification makes for melodrama. But it provides the actor a rich and varied opportunity, and through him the play was for many years an enormous theatrical success. Richard Burbage, we know, was practically identified with the title role. The number of editions is an index of

popularity. It was played at court as late as 1633. In 1700 the acting version of Colley Cibber, who rewrote some lines, omitted some characters, and concentrated on Richard, provided Cibber himself with a part he enacted for almost 40 years, and superseded the original text. In the 19th century the great stars established the play as inevitable. In England, George Frederick Cooke, Edmund Kean (who was probably the superlative Richard), William Charles Macready, and Charles Kean played Cibber's adaptation, Macready with some modification. Samuel Phelps and Sir Henry Irving restored Shakespeare. In the United States, the famous representatives were Cooke, the Keans, Edwin Forrest, the Booths, John McCullough, Lawrence Barrett, Richard Mansfield, and John Barrymore (1920). Since then the play has faded. Acting styles and theatrical tastes have changed. The complication of family and political motivations, not clear without knowledge of *King Henry the Sixth*, and the horrendous violence no longer please. It is often and widely revived but despite the participation of Laurence Olivier, Marius Goring (Stratford, England), Alec Guinness (Stratford, Ontario), and José Ferrer, the last three in 1953, the effect tends to be that of a museum piece, exciting enough but, notwithstanding its power, somewhat old-fashioned.

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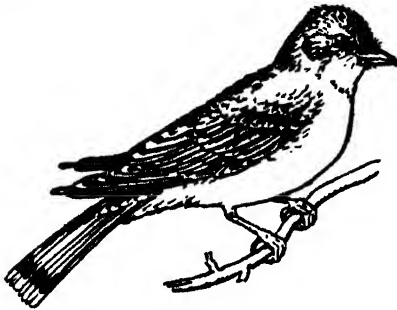
KING SALMON, another name for the quinnat salmon, *Oncorhynchus tshawytscha*, the most important of the several species of salmon (q.v.) found on the Pacific coast of the United States.

KING SNAKE, an innocuous colubrid (*Lampropeltis getulus*) of the United States noted for its serpent-eating propensities and the boldness with which it attacks even venomous species like rattlesnakes, hence its name. It also feeds on lizards, amphibians, mammals, and even turtle eggs. Glossy black above, the head is spotted with white or yellow; a series of crossbars of the same hue along the back diverge on the sides where they often merge with lateral bands to produce a chainlike pattern that has gained for the king snake the alternative name of chain snake. While black predominates on the undersurface it is liberally variegated with yellow or white. However, many strikingly different geographical races occur throughout the king snake's extensive range in the United States and Mexico. Several of these subspecies are popular as pets, not merely on account of their handsome appearance, but because of their gentleness, for most king snakes tame readily and do not resent being handled. While usually averaging about a yard long, exceptional individuals of almost double that length have been recorded.

KING VULTURE. See **CONDOR**.

KING WILLIAM'S WAR, a war waged by Great Britain and its colonies in America against France and its Indian allies in 1689–1697. The Treaty of Ryswick terminated the war. However, the fighting resumed in 1702, the new struggle being called Queen Anne's War. See COLONIAL WARS IN AMERICA.

KINGBIRD, a member of the genus *Tyrannus* of the tyrant flycatcher family (Tyrannidae). There are ten recognized species of which the best known is the common eastern kingbird (*T. tyrannus*) of eastern North America. It is blackish above, white below, with a white-tipped tail and a partly concealed scarlet crest. The pugnacious behavior that gave the name "tyrant flycatcher" to the members of this family is very evident in the kingbird. It vigorously attacks any hawk, crow or other large bird that ventures within its domain. Uttering staccato scolding notes, the kingbird dives at its larger adversary, pecking it on the shoulders and driving it far away, before returning triumphantly to its mate and nest.



KINGBIRD

Kingbirds attack furiously any person who attempts to climb to their nest and intruders have been known to fall to the ground utterly confused by the savage onslaughts of these small birds. The nest itself is a substantial cup, lined with soft material such as plant down and sometimes with wool. The four or five eggs are white, flecked with brown. Like other flycatchers the kingbird sallies out after flying insects, snapping them up in its broad bill. Its partiality for bees has given it the name "bee martin" in some districts. Fortunately it prefers the useless drones, perhaps because they are stingless, but how it can tell them from the worker bees is a mystery. The eastern kingbird migrates south in the winter to South America, for it is dependent upon flying insects for food. In western North America the common species is the Arkansas or western kingbird (*T. verticalis*). It is closely related to the eastern form but is yellowish below, as are several other species of the group found in the tropics. The western kingbird occasionally appears on the east coast of America during migrations. In Florida one finds the gray kingbird (*T. dominicensis*), while Cuba boasts the giant kingbird (*T. cubensis*). In the kingbirds, as in the tyrant flycatchers generally, the center of distribution is in the American tropics and the few species that visit the temperate regions during the summer to nest must return to the tropics in winter.

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KINGDOM OF GOD. The idea of the Kingdom of God is prominent in the Old Testament, but especially so in the New Testament,

finding its center in the teachings of Jesus. The Kingdom of God is a goal set before the race; not a Utopian dream, but a realization through character development. It is also a philosophy of history. The phrase Kingdom of God or Kingdom of Heaven is not found in the Old Testament, but the idea was early developed (Judges 17:6; 18:1) and all the prophets foretold it. Back of their belief in a coming Kingdom of God was faith in God himself and their earliest political unity was theocentric. Their faith was built on a future in which there was to be a more perfect kingdom. The idea of a Messianic reign is carried from the prophets into apocalyptic literature where it is sometimes strongly stated (Daniel 2:44; 7:13, 14, 27).

From the beginning Jesus connected his own person with the Messianic Kingdom and distinctly taught that it was to be a spiritual kingdom, culminating in the heavenly kingdom. The members of the kingdom were to be, first of all, his immediate followers, and then their successors in the years to come. The fully developed kingdom cannot be recognized here, only in heaven. The Book of Revelation developed the idea of the millennial reign of Christ on earth before His final reign in heaven. The Montanists held their own views of the Kingdom of God—a puritanical rigor of morals was fundamental. The millennial idea continued until it was superseded under Constantine with the idea of a Christian empire. Monasticism next arose as a possible method for the seeker after the Kingdom of God.

Augustine developed the idea that the Church is the Kingdom of God on earth. This was in two parts—the visible and invisible. The medieval theologians built on that conception the idea of an omnipotent Church with its complete centralization of power, culminating finally in the work of Gregory VII and Innocent III.

Dante combated this idea in his *De Monarchia* in which he argues for the divine sanction for the secular life apart from the spiritual, and demands that the Pope be only the spiritual head of the spiritual Church. And again, as in the early Church, monastic poverty was sought as a means for entrance into the kingdom and so the mendicant orders of Friars flourished. William of Ockham and Marsilius continued to develop the idea of Dante. John Wyclif was the first to oppose the medieval idea theologically. Then came the Reformation following the intellectual awakening of Europe, in which many voices protested against an omnipotent church. As a universal idea it was a failure. The Reformation, however, did not put an ideal in its place. The Counter Reformation and the Renaissance were Catholic attempts to reconstruct the idea. The present-day tendency in Protestant circles is to reinterpret the biblical sources of the doctrine. It is a part of the growth of the science of biblical theology. The present idea is that "the Church is the Kingdom of God in the making" as far as she represents the ideals of the sources of the doctrine. The bibliography of the subject is very extensive.

Consult Robertson, Archibald, *Regnum Dei—Eight Lectures on the Kingdom of God in the History of Christian Thought* (London 1901); Scott, E. F., *The Kingdom and the Messiah* (Edinburgh 1911); Otto, R., *The Kingdom of God and the Son of Man* (London 1938); Grant, F. C., *Gospel of the Kingdom* (New York 1940); Sharman, H. B., *Son of Man, and Kingdom of God* (New York 1943); Galus, W. J., *Universality of the Kingdom of God in the Gospels and the Acts of the Apostles* (Washington, D.C. 1945).

KINGFISH, the name of various fishes of notable power or superior excellence, especially certain Spanish mackerel of the genus *Scomberomorus*. One, the cavalla or king cero, is a favorite game fish in Florida (see CERO). The kingfish of New York waters (*Menticirrhus saxatilis*) is one of the whittings, of the family Sciaenidae, closely allied to the drums (see WHITING). It is a moderately large migratory marine fish, dusky gray above, sometimes blackish, the back and sides with distinct dark oblique crossbands running down and forward, and a V-shaped blotch on each side of the nape. It is also known as seamink, and is an excellent food-fish, but has become rare, although formerly ascending the Hudson River in schools, in early spring, for 40 miles or so. Other fishes so called are the little roncador (q.v.) of California, and the opah (q.v.).

KINGFISHER, Okla., city and Kingfisher County seat, situated at an altitude of 1,066 feet 36 miles south of Enid; it is served by the Rock Island Railroad. The city is an important agricultural center. Settled in 1889, it lies on the old Chisholm Cattle Trail and was named for King Fisher, a cattleman; the city was incorporated in 1893. Pop. (1940) 3,352.

KINGFISHER, a bird of the family Alcedinidae, characterized by the short, compact body and large head, with a large, straight, acute bill; the somewhat usually short, square tail of 12 rectrices, the short rounded wings having 10 primary quills; the short, weak legs and nearly unique cohesion of the middle and outer toes. Two sub-families are commonly recognized, the Daceloninae, or Kinghunters, with a broader, depressed, sometimes curved bill and usually insectivorous habits; and the Alcedininae, or true kingfishers, with a compressed, carinated bill, and usually piscivorous. About 20 genera and 125 species have been described, half of which are confined to the Australian region. About five genera and 50 species are distributed between tropical Africa and Asia, and one species alone, the brilliantly colored *Alcedo ispida*, is found in Europe; while all of America has only eight species of *Ceryle*, three of which extend their range into the United States. Of these three, two (*Ceryle torquata* and *C. americana*) are really Mexican and Central American, but the third, the belted kingfisher (*C. alcyon*), is a widely distributed and highly characteristic member of the North American avifauna. Throughout North America, from the shores of the Arctic Ocean to the Gulf of Mexico, and from the Atlantic to the Pacific, is the summer breeding home of the belted kingfisher, which in winter retreats south of the limit of freezing. The large, crested head, very large bill and deep blue color, with black and white markings, and largely white under parts, give to this bird a very characteristic aspect, which is heightened by its peculiar habits. Each pair selects a hunting ground somewhere in the vicinity of water, and other pairs seldom intrude upon this preserve. There the kingfisher perches on a tree overhanging the water and watches for the passage of a fish, when it plunges headlong and usually emerges with a small fish held firmly in the beak. As it rises a spasmodic shake dispels the water from its compact oily plumage, and on returning to its perch, the

fish is usually tossed into the air and swallowed head first. Sometimes the kingfisher hunts more in the manner of a tern and plunges from a suspended position in mid air. The only call is a peculiarly loud, harsh, rattling cry. A burrow six to nine feet long, dug horizontally into a bank, serves as a nesting place, in the slightly enlarged end of which the six or eight pure white eggs are laid on a bed of regurgitated fish bones.

The daceonine kingfishers have very different habits, and might more properly be called kinghunters. They are usually woodland birds, caring little for the neighborhood of water, since their food consists of insects caught mainly on the wing, or else of tree frogs, lizards, and other small reptiles found on the ground or about trees. The jackass kingfisher (q.v.) of Australia is a prominent example. A peculiar group of the Papuan Islands (genus *Tanysiptera*) has long, racket-shaped tail feathers and other peculiarities of plumage. The small East Indian species have only three toes. Those of Africa are inhabitants of deep woods, but when hard pressed for food will resort to streams and pick up small fishes. All these breed in holes in trees and not in earth-burrows.

KINGHSIEN, Chinese seaport, also known as Ningpo (q.v.).

KINGHUNTER, a kingfisher of the subfamily Daceloninae; specifically the jackass kingfisher (q.v.).

KINGLAKE, Alexander William, English historian; b. Taunton, Somersetshire, Aug 5, 1809; d. Jan. 2, 1891. He graduated from Cambridge University in 1832, and five years later he was called to the bar at Lincoln's Inn. In 1835 he had made a tour of the Near East, and his personal impressions of Moslem manners and morals he subsequently recorded in *Eothen: or, Traces of Travel Brought Home from the East* (1844), a volume marked by truth to nature, poetry, humor, and imagination; it is regarded as an outstanding narrative of travel. His interest in military matters took him in 1845 to Algiers, where he joined a French column under Gen. A. J. Leroy de Saint-Arnaud. During 1854 he was with the British Army in the Crimea, where he witnessed the battle of the Alma River. At the request of the widow of Lord Raglan, commander in chief of the British forces in the Crimean War, he undertook to write an account of the campaign. His monumental *Invasion of the Crimea*, 8 vols. (1863-1887) was a brilliant performance, almost exhaustive in its details, picturesque, and telling in description and narrative. From 1857 until 1868 he represented Bridgwater in the House of Commons. See EOTHEN.

KINGLET, a very small bird of the thrush family dwelling in northern forests and visiting southern Europe and the United States only in winter. These smallest of songsters, hardly more than four inches in total length, are olive-green and gray in color, with a half-concealed yellow crest in one of the two species, the goldcrest (*Regulus satrapa*), and a flame-colored one in the other (*R. calendula*), called ruby-crown. Both, especially the ruby-crown, sit

weetly in the spring before going to make their
spline nests in some evergreen tree.

KINGMAN, Kans., city and Kingman County seat, situated at an altitude of 1,504 feet, 45 miles west of Wichita; it is served by the Atchison, Topeka and Santa Fe and the Missouri Pacific railroads. In the midst of rich agricultural and stock-raising country, Kingman has grain elevators, flour mills, and creameries. Founded in 1872 on the north bank of the Ninnesah River, settlers on the opposite bank six years later founded a rival Kingman. Early in the 1880's they united to become the county seat. West of the town is the Kingman County State Park. Government is by commission. Pop. (1950) 3,200.

KINGMAN REEF, in the North Pacific, 920 miles south of Honolulu and 33 miles northwest of Palmyra Island, is a United States possession. The reef, 9 miles long and 5 miles broad, encloses a lagoon which was used during 1937-1938 by Pan American seaplanes. Discovered in 1798 by Edmund Fanning (1769-1841), the American navigator, and named for Captain Kingman, who visited it in 1853, the reef was annexed by the United States on May 3, 1922; administration was entrusted to the Navy Department by Executive Order No. 6935, dated Dec. 29, 1934.

KINGS, Books of. These two books in the Hebrew Bible formed originally one work. In the Greek version (the Septuagint), Kings and Samuel were reckoned as four Books of Kingdoms. This fourfold division passed into the Christian Bibles through the Vulgate, and was adopted in the printed editions of the Hebrew. Jerome, however, preferred the title Kings, hence our present name for the second twofold work.

Like Judges, Kings is a product of the era of historical interpretation inaugurated by the publication of Deuteronomy in 621 B.C. (See DEUTERONOMY and JUDGES.) The reign of Solomon and the history of the divided kingdom furnished more abundant and varied illustration of the central principles of the prophetic law book than even the age of the Judges. For the period included in Kings, the writers of the exile did not have, as they did for the time of the Judges, a completed history already at hand, which they needed only to edit. For this era, they must themselves compile the earlier documents. Kings is therefore the great, original contribution of the Deuteronomistic school of historians. Some passages, implying that the Temple is still standing and the Davidic dynasty uninterrupted, suggest that the compilation was undertaken in pre-exilic days, but the work as a whole carries the history in detail to the events following the destruction of Jerusalem in 586 B.C., and cannot have been finished before the exile.

The completed work falls into three great sections: (1) The reign of Solomon (1 Kings i-xi); (2) The divided kingdom (1 Kings xii-2 Kings xvii); (3) Judah after the fall of Israel (2 Kings xviii-xxv). At the close of the first and second sections, the compilers introduce at length their own interpretation of the preceding events in characteristic Deuteronomistic terms. At the opening and close of each reign they give their judgments on the successive kings in stereotyped formulas. These formulas include

also the chronological data in accordance with which they arrange the synchronisms of the reigns. For their sources the compilers had on hand a book of the Acts of Solomon and separate Chronicles (Hebrew, Acts of Days) of Israel and Judah. They also had collections of stories concerning Elijah, Elisha and other prophets. Reference is made by title to the Acts of Solomon and the Chronicles of Israel and Judah for additional information not included in Kings. Whether these books were the original state documents we cannot be sure. From the time of David, a Recorder (Hebrew, Remembrancer) seems to have been a regular officer of the court. Directly or indirectly his records may be supposed to underlie the sources on which the compilers rely for information concerning the public activities of the kings, but it is commonly felt that the Chronicles to which they refer were not the original court records. They seem, rather, to have been compositions based on these and including also materials that would find no place in official annals. The narratives concerning Elijah, who appears so prominently in the fateful reign of Ahab of Israel, were doubtless composed in prophetic circles not long after his death. The sudden way in which the prophet is introduced (1 Kings xvii, 1) implies that the stories are taken out of a larger work in which fuller information is given concerning him. Some of the other stories in which prophets appear show more traces of the accretions which indicate oral transmission; those may have been handed down by word of mouth for some time before they were committed to writing. As a whole the books of Kings give the national history for a period of 400 years from the death of David to the exile, in a form that commends itself as affording one of the most reliable histories composed in pre-Christian times. Taken in connection with the books of Judges and Samuel, they give a comprehensive survey of Hebrew history, covering a period of nearly 600 years, from the struggles of the tribes for the possession of the land, through the federation into the monarchy, the division into two kingdoms, their interrelated history, and the separate history of Judah after the fall of Israel until her own downfall. In this series of books, Samuel was already in a form which so satisfied the exilic historians that they made very slight editorial additions, but Judges received much editing from their hands, and Kings, as has been indicated, is their own compilation. When their work was accomplished, a century before the time of Herodotus, their nation had a history of remarkable completeness and reliability, as compared with other ancient peoples.

In literary form, the books of Kings offer an interesting study. The 11 chapters concerning Solomon's reign center in the description of the building and dedication of the Temple. To this central part are prefixed the account of the king's accession and notices of his wisdom, power, and wealth, and there are appended further notices of his wisdom and splendor and of his apostasy and adversaries. The histories of the divided kingdom are most skillfully interwoven so that the contemporary events are kept in close connection and yet the distinction between the two kingdoms is made clear. From the downfall of Israel in 722 B.C., the compilers' task was comparatively simple as they dealt with the records of Judah alone.

The brief epitomes of many of the reigns afford little scope for literary art, but the fuller narratives concerning Elijah and Ahab are among the best told and most inspiring stories of antiquity. Other narratives which show the vigor of Israel's early prose concern the wars with Damascus (1 Kings xx, xxii). The sections in which the compilers pass their judgment upon Solomon or Israel are marked by the solemn earnestness and rhythmic speech so characteristic of Deuteronomy and of the writers influenced by its noble style and profound convictions. Even the monotonous formula, condemning all the kings of Israel for walking in the way of Jeroboam and in his sin wherewith he made Israel to sin, gives something of the impressiveness of the tolling of a deep toned bell, that adds its own element to the effect of the whole work.

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KING'S BENCH, Court of. See COURT.

KING'S CHAPEL, a religious edifice in Tremont street, Boston, Mass., built in 1745 on the site of an older church. During the War of the Revolution it was for a time forsaken by its Loyalist congregation. In the burial ground adjoining which has been in use since 1630, many of the early Puritans, including Governor Winthrop, are interred.

KING'S COLLEGE, a college of Cambridge University, England, founded by Henry VI in 1441, as the College of Saint Nicholas for a provost and 70 scholars, with Eton College as a preparatory school. Exemption from the jurisdiction of the archbishop of Canterbury, the bishop of Ely, and even of the university in matters scholastic, were some of its unusual privileges, and until 1857 members of King's College could take a degree without passing the university examinations, a course which did not conduce to a high standard of scholarship. In its roll of celebrated alumni are Archbishop Sumner, Bishop Pearson, Richard Croke, the Greek scholar, the first Sir William Temple, Sir Robert Walpole and Lord Stratford de Redcliffe. The college had in addition to a provost, 46 fellows, 48 scholars, 200 undergraduates. The college chapel is the finest in the world in size, form and decoration. It contains some of the best stained glass and wood carving examples in England.

KING'S COLLEGE, London, a college established by private subscription and incorporated in 1829, its constitution being amended

by an act of Parliament in 1882. It was established for the purpose of providing an education in accordance with the principles of the Established Church. Education is imparted in the departments of theology, general literature and science, applied sciences and engineering, laws and medicine. The department of general literature and science is intended to prepare students for the universities, for the army and the Indian and home civil service; and there are also special classes for civil service candidates. There is a department for women. The college possesses a library and a museum, the latter containing Babbage's calculating machine and King George the Third's collection of philosophical instruments and mechanical models. It is now a constituent college of London University. Among its celebrated scholars are Prof. Thorold Rogers and Cayley, Sir James Fitzjames Stephen, Dean Farrer, Dante Gabriel Rossetti and his brother William.

KING'S COLLEGE, now in Halifax, and definitely affiliated with Dalhousie University, was originally at Windsor until a great fire, on 5 Feb. 1920, destroyed the entire college residence. There it had the distinction of being the oldest college in the dominions overseas. Its establishment was the work of British Loyalists, chiefly from the State of New York, after the close of the War of the Revolution. Of these about 18,000 settled in the Nova Scotia Peninsula. As early as 8 March 1783 a meeting of Loyalists was held in New York, and "A Plan of Religious and Literary Instruction for the Province of Nova Scotia" was drawn up and forwarded to the colonial secretary; and when Dr. Charles Inglis, who had formerly been rector of Trinity Church, New York, was consecrated first bishop of Nova Scotia in 1787, one of his first cares was to carry the scheme into effect. First, a grant was obtained from the provincial legislature for an academy at Windsor. This academy (now known as the Collegiate School) was opened 1 Nov. 1788, and the following year an act was passed for "the permanent establishment and effectual support of a college at Windsor," and the sum of £400 sterling per annum granted toward its maintenance. Under this act King's College was opened in 1790 in temporary quarters, and the erection of a building of wood was begun the following year.

The first president of the college was Rev. William Cochran, a graduate of Trinity College, Dublin, who had been professor of Greek and Latin in King's (now Columbia) College, New York, but who, on account of his Loyalist sympathies, resigned and came to Nova Scotia in 1788.

A royal charter, giving to King's College full university powers, was granted by George III in 1802, and was accompanied by an imperial grant of £1,000 a year, which was continued until 1834. The board of governors under this charter was a political body, consisting of the lieutenant-governor, the bishop and six members of the government. The task of framing statutes for the college was entrusted to a committee of three, two of whom were uncompromising Tories, and by their rigid adherence to the Oxford model in the matter of religious tests inflicted a lasting injury upon the college and almost effected its ruin. The requirement

made that all students, on matriculation, subscribe to the Thirty-nine Articles. To the bishop strenuously objected, and sent protest to the archbishop of Canterbury, who was, under the charter, patron of the college. The archbishop compromised by withdrawing the test at matriculation, but requiring of all those who were admitted to degrees, instead of at once publishing this amendment, the governors kept the matter quiet, and Lord Dalhousie, who became governor of the province in 1816, seems not to have heard of it until he had arranged for the establishment of another institution (Dalhousie College) (q.v.) at Halifax.

Although the religious tests were finally removed in 1829, in spite of repeated attempts to secularize it and amalgamate it with Dalhousie College, Halifax, King's College still retained its connection with the Church of England, and indeed the requirement that the president should be a clergyman was only abolished in 1902. Of the three King's Colleges established at Windsor, N. S., Fredericton, N. B., and Toronto, it is the only one which has maintained its original status, the others having relinquished their charters and become secularized.

In 1846 a meeting of alumni of the college was held, and it was determined to form an association for furthering the interests of the college. Accordingly a provincial act incorporating "The Alumni of King's College, Windsor," was obtained in 1847, and six years later another act abolished the old political board of governors and constituted a new board, the members of which were, for the most part, to be elected by the alumni. The provincial grant of \$400 was discontinued in 1849, and for some years the smaller grant of \$1,000 a year was continued, but this ceased in 1881, and since that time the college has been thrown upon its own resources. The progress of the college was rapid under the new régime. The number of students increased. A beautiful stone convocation hall and library was erected in 1861 and a chapel in 1877.

Following the great fire in 1920, it accepted the offer of Dalhousie to erect its new buildings in Halifax, on Dalhousie grounds, which it has been able to do through a generous grant from the Carnegie Corporation. A scheme of a university federation of the maritime provinces was thus put into effect. King's College now is within a five minute walk of Dalhousie. Students of that university have the privilege of attending lectures in the Arts by professors of King's, and King's students, except freshmen, may attend the classes at Dalhousie. Dalhousie grants all degrees in arts and sciences, the name of King's College appearing on the diploma where the student originally enrolled at King's. Women students are accepted at King's on the same basis as men. Degrees granted are the B.A., B.Sc., LL.B., M.D., C.M., D.D.S. King's has a School of Divinity. It retains its own board of governors which, as defined by the Acts of 1923, consists of the bishops of the dioceses of Nova Scotia and Fredericton, the president and the treasurer of the university, with 10 members elected by the alumni association and eight by each of the synods of Nova Scotia and Fredericton. The faculties of King's are combined, for purposes

of instruction only, with those of Dalhousie, in the arts and sciences. King's otherwise retains its entire corporate organization, residential life, and internal discipline.

A. STANLEY WALKER, *President*.

KING'S (QUEEN'S) COUNSEL, in England, Ireland and several of the British colonial possessions, a title given to a barrister at law, by letters patent, to be the counsel of the Crown. It is a title much prized by the legal profession, simply because it is now largely one of advancement in the profession. There is no general law title and dignity which correspond to the British King's Counsel, because the latter is based upon the privileges of the Crown, which, in this respect, are little more than nominal.

KING'S DAUGHTERS AND SONS, International Order of The, an organization of men, women and children of all religious denominations, whose objects are the development of spiritual life and the stimulation of Christian activities. The original circle consisting of 10 women was founded in 1886 in New York City by Mrs. Margaret Bottomo. The order is organized into circles, county and city unions, and chapters; also national, State and provincial branches. There are 37 branches in the United States, one organized country (Canada), and six provincial branches. The badge is a small silver Maltese cross bearing the initials I. H. N. (In His Name). The society publishes a monthly magazine, *The Silver Cross*. The membership in 1939 was 70,000. The order owns Memorial Headquarters at 144 East 37th Street, New York City, and a Scholarship House at Chautauqua, N. Y. The branches have established, and are maintaining, 124 institutions in different localities, with a property value of approximately \$4,000,000; annual maintenance \$1,500,000.

KING'S (or QUEEN'S) EVIDENCE, the British equivalent of State's evidence. See INFORMER.

KING'S EVIL. See SCROFULA.

KING'S LYNN, or **LYNN REGIS**, a port town in Norfolk, England, near the mouth of the Great Ouse. It is noted for its fine docks covering more than 100 acres, and its excellent harbor. King's Lynn was once strongly fortified by a massive wall and moat, the ruins of which still exist. Of these ruins one of the interesting features is the so-called "South Gates," a handsome Gothic structure. The town is one of the oldest in England. After years of life as a local municipality, it received a charter as an incorporated place in the reign of King John (1204). During its official civic career it has been variously known as Lynn Episcopi, Bishop's Lynn, Lynn Regis and King's Lynn. It was several times, during the European War, the victim of aerial attacks on the part of the German air fleet, the first of which took place in 1914. King's Lynn is noted for its fine churches and schools and other public buildings, some of which are of considerable age. Among the industrial establishments of the town are iron foundries, machine shops, beer and malt establishments, oil mills and shipyards. It does a very considerable export and import business. Among the famous natives of the place were Eugene Aram and Frances Burney. Pop. 19,968.

KINGS MOUNTAIN, town, North Carolina, in Cleveland County, is located 11 miles west of Gastonia and 33 miles west of Charlotte, on the Southern Railway. The chief industry is textile manufacturing. It was incorporated in 1874, and has a city manager-commission form of government. Pop. (1950) 7,206.

KINGS MOUNTAIN, a low mountain or ridge, 1,040 feet high, running southwest from Cleveland County, North Carolina, into York County, South Carolina. It was on this ridge near the border line of the two states that the battle of King's Mountain took place, Oct. 7, 1780, between about 900 Americans under Cols. John Sevier, Isaac Shelby, William Campbell, and Otho Holland Williams, and some 1,100 British under Maj. Patrick Ferguson. The British were defeated with a loss of 242 killed and wounded and 664 taken prisoner; the American loss was 28 men killed and about 90 wounded. This was one of the most brilliant victories of the Revolutionary War and had an important influence in breaking British power in the South.

Consult Draper, Lyman Copeland, *King's Mountain and its Heroes* (Cincinnati 1881); McCrady, Edward, *The History of South Carolina in the Revolution, 1775-80* (New York 1901).

KING'S PEAK, the highest point in Utah, is a peak of the Uinta Mountains, 13,498 feet high, in the northern part of the state, 80 miles east of Salt Lake City. It was named for Clarence King (q.v.), director of the survey of the 40th parallel. Nearby are Emmons Peak, 13,428 feet, and Gilbert Peak, 13,422 feet.

KING'S SPEECH, The, in British Parliamentary procedure, is the speech read from the throne in the House of Lords at the commencement of each session. It reviews the political situation and outlines the ministerial legislative program. The Parliament is opened by the king (or queen regnant) in person, who reads the speech, which is composed by the Prime Minister in consultation with his Cabinet. In the absence of the sovereign Parliament is opened by commission, when the speech is read by the Lord Chancellor. The reply to the speech is called the address.

Consult Sir William Reynell Anson's *Law and Custom of the Constitution* (Oxford 1922).

KINGSBOROUGH. See KING, EDWARD.

KINGSBURY, kīngz'běr-ī, John, American educator: b. South Coventry, Conn., May 26, 1801; d. Providence, R. I., Dec. 21, 1874. A pioneer for better education, after graduating from Brown University in 1826 he developed a high school for girls where Latin, algebra, geometry, natural science and advanced English were taught. He was a leader in the movement for free public schools in Rhode Island. He was a member of the Royal Historical Society, and was elected fellow of the British Academy in 1924. Among his published works are *Song of Lewes* (1890); *Chronicles of London* (1905); *Stow's Survey of London*, with introduction and notes (1908); *The First English Life of Henry V* (1911); *English Historical Literature in the Fifteenth Century* (1913); *Early History of Piccadilly, Leicester Square, Soho, and their Neighbourhood* (1925).

KINGSFORD, kīngz'fērd, Charles Lethbridge, English historical writer: b. Ludlow, Shropshire, Dec. 25, 1862; d. Kensington, Nov. 27, 1926. Upon graduation from Oxford (1886) he joined the editorial staff of the *Dictionary of National Biography*, and was assistant secretary and examiner of the Board of Education, 1905-1912.

KINGSFORD, William, Canadian historian: b. London, England, Dec. 23, 1819; d. Toronto, Canada, Sept. 28, 1898. He entered the army and came to Canada in 1837 with the 1st Dragoon Guards, receiving his discharge in 1841. He then took up surveying and engineering, and was widely employed by the government and various railways. After his retirement he produced his voluminous work, *The History of Canada* (1880).

KINGSFORD, city, Michigan, in Dickinson County, is located on the Menominee River, 2 miles southwest of Iron Mountain, in a dairy, fruit, and truck farming area. It has a sawmill, drying kilns and chemical plant, chiefly for the manufacture of wooden auto parts. There is iron ore in the vicinity, and facilities for skiing and other winter sports are nearby. It was incorporated as a city in 1947, and has commissioner-manager government. Pop. (1950) 5,038.

KINGSFORD-SMITH, Sir Charles Edward, Australian aviator: b. Brisbane, Feb. 9, 1897; d. Nov. 7-8, 1935. During World War I he served first in the Australian Imperial Force in Egypt and Gallipoli, and then in the Royal Flying Corps. After the war he entered commercial aviation, and from 1927 on set a number of world records for long distance flying. He was lost en route to Singapore on the first leg of a flight from England to Australia in 1935.

KINGSLEY, kīngz'li, Calvin, American clergyman, educator and editor: b. Annsville, Oneida Co., N. Y., Sept. 8, 1812; d. Beirut, Syria, April 6, 1870. He entered the ministry of the Methodist Episcopal Church in 1841, the same year he graduated from Allegheny College, where he was professor of mathematics, 1846-1856. The General Conference of 1864 elected him bishop. In 1867 he attended the mission Conference in Europe, and two years later visited India and China. He died at Beirut while on a journey to the Holy-Land, and his grave there is marked by a monument erected by American Methodists. He was author of *Round the World: a Series of Letters*, 2 vols. (1870).

KINGSLEY, Charles, English clergyman, novelist and poet: b. Holne Vicarage, near Dartmouth, Devonshire, June 12, 1819; d. Eversley, Hampshire, Jan. 23, 1875. He was a pupil of Derwent Coleridge at Helston, Cornwall, studied at King's College, London, and at Magdalen College, Cambridge, where he was graduated with high honors in 1842. He took orders in the Established Church, obtained the curacy of Eversley, and became its rector in 1844, a position he held until his death; and he was also canon of Chester 1869-1873, and of Westminster from 1873 till his death. From 1860 to 1869 he was professor of modern history at Cambridge. Early in his career as a clergyman of the Church of England, he associated himself with F. D. Maurice, Julius Hare

and others, both in their religious views and their social aims. With them he considered the peculiar duty of the church to improve the condition of the working classes. To that end he was a strong advocate of cooperative association.

He was called the "Chartist Clergyman." His early novels, *Alton Locke* (1850), a novel of extraordinary power, and *Yeast* (1851), showed sympathy with Chartism (q.v.). The most important of his later novels are *Hypatia* (1853), *Westward Ho!* (1855), perhaps the most popular of his stories, and *Hereward the Wake* (1866). Among other of Kingsley's works are *The Water Babies* (1863), a fairy-tale of science; and *At Last: a Christmas in the West Indies* (1871). He was also the author of numerous sermons, lectures and essays, and of various poems, the chief of which are *The Saint's Tragedy*, and *Andromeda*, the latter being one of the most successful experiments in English hexameter.

Kingsley was a strong opponent of Tractarianism (q.v.). He was a contributor to several periodicals, including the *Christian Socialist*, and *Macmillan's Magazine*. It was a book review by Kingsley in *Macmillan's* that began the controversy with Cardinal John Henry Newman in the course of which the cardinal wrote his famous *Apologia pro Vita Sua* (1864), a history of his intellectual development and conversion to Catholicism.

See also *HYPATIA; WATER BABIES, THE; WESTWARD HO!*

Consult *Charles Kingsley: His Letters and Memorials of his Life*, by his wife (1877).

KINGSLEY, James Luce, American scholar and educator: b. Scotland, Conn., Aug. 28, 1778; d. Aug. 31, 1852. Having graduated from Yale (1799) he was, in 1801, appointed tutor there. He became the first professor of ancient languages—Greek, Latin, and Hebrew—at Yale, but later, and until his retirement in 1851, he devoted himself exclusively to Latin. He also acted as librarian from 1805 to 1824. Being a scholar of wide intellectual sympathies, with a native bent toward mathematics and science, he was greatly distinguished in his generation. He was well acquainted with English literature, and was one of the best authorities of his day on American history, particularly the histories of Connecticut and New England regarding which he was a frequent, and generally anonymous, contributor to magazines. His contributions to the *American Quarterly Register*, and the *American Biblical Repository* on the history of Yale College were recognized criteria. Although few have equaled, or excelled, him in mastery of Latin, his publications in that language were few, mainly textbooks.

KINGSLEY, Mary Henrietta, English authoress and traveler: b. Islington, London, Eng., Oct. 13, 1862; d. Simonstown, Union of South Africa, June 3, 1900. She came of noted literary stock, being daughter of George Henry Kingsley, brother of Charles Kingsley, famous novelist and poet (q.v.). Miss Kingsley developed an intellectuality above the average of women of her day. At Cambridge University she studied sociology, and became a great admirer of Darwin, Lubbock, and Huxley as well as other pioneers in biological science and kindred research. Being deeply interested in biology, and in the

native religions of West Africa, she resolved, in 1893, to continue her studies at first hand by visiting the regions of the Lower Congo. After a brief visit to England, she returned to West Africa and, in her intrepid pursuit of knowledge, she visited some territory then unknown to Europeans. Her travels covered great stretches of the country, including the Niger Coast, French Congo and the German Cameroon. The story of her scientific studies, adventures, and experiences while investigating the customs and fetiches of West African Negroes is told in her *Travels in West Africa* (1897). Her plans for a third voyage in behalf of the West African Negroes were changed by the Boer War. She went, instead, to South Africa where, in nursing wounded soldiers, she contracted enteric fever which proved fatal. Among her published works are *West African Studies* (1899), and *The Story of West Africa* (1899).

KINGSPORT, kingz'pört, city, Tennessee, in Sullivan County, on the Holston River, altitude 1,284 feet, on federal highways, is served by the Clinchfield Railroad. It has bus connections to all parts, and a motor freight service. The Tri-City Airport provides frequent service by main airlines.

Kingsport's products and plants include chemicals, plastics, synthetic yarn, industrial glass, book manufacturing, cotton cloth, pulp and paper, leather belting, book, shade, and label cloth, cotton piece goods finishing, heavy castings, cement, brick and cinder block, hosiery, flour mills, dairies, bakeries, bottling plants, sheet metal works, building material, and store equipment.

The city has a broad cultural program including a community chorus, a civic symphony orchestra, and a theater guild. It has a good public school system, and churches representing most denominations; a civic department of recreation, a civic auditorium, and a stadium for outdoor sports. Kingsport is on the Boone Trail, as marked by a bronze plate at the Circle. Although its history traces back to revolutionary days, the modern city was not founded until the advent of the Clinchfield Railroad in 1909. The city biennially elects a board of mayor and aldermen which board employs a city manager. Pop. (1950) 19,636.

KINGSTON, king'stün, **Charles Cameron**, Australian statesman: b. Adelaide, Australia, Oct. 22, 1850; d. there, May 11, 1908. Graduated in law at his native city, he at once became interested and active in politics, and was, in 1881, elected to the Assembly of Adelaide, a seat he held for years. After holding the office of attorney general he became premier in 1893 and held the chief executive office for 8 years, when he entered the federal cabinet of the Australian Commonwealth, with the cabinet office of minister of trade and commerce (1901-1903), from which date until his death he was a member of the Commonwealth. He was very advanced in his politics and favored most of the measures put forward by the Labour and Socialist parties. He was instrumental in the passage of laws of a very radical nature for the regulation of factories and the employment of labor, and for the extension of the franchise to women.

KINGSTON, seaport, Jamaica Island, British West Indies, capital of the colony of

Jamaica, situated by a well protected, deep-draught harbor on the southeast coast of the island. It stands opposite the ruins of old Port Royal, once one of Great Britain's most flourishing ports in the New World, but destroyed by an earthquake in 1692. Kingston, long the most important city on the island after that, became the official capital in 1872 and was itself almost destroyed by an earthquake in 1907, as well as by several hurricanes since then. Possessing one of the best harbors in the West Indies, Kingston is a regular port of call for steamers and does a large export business in coffee, sugarcane, coconuts, and bananas.

The city is connected by the Jamaica Railway to inland cities as far as Montego Bay on the northwest coast. It manufactures biscuits, jam, clothing, furniture, cigaretttes and cigars, shoes, drugs, and cosmetics, and has copra processing, fruit canning, brewing, and tanning plants.

Still retaining its provincial air, Kingston has become known as a resort center. It has many fine old buildings, among them the St. Andrews Parish house, and there are a museum and library in the Institute of Jamaica. The city has an excellent school system for both natives and whites, and the University College of the West Indies, established in 1949, is located seven miles out of the city. Government is by a mayor and council. Pop. (1947 est.) 120,000.

KINGSTON, city, New York, and Ulster County seat, at an altitude of 0 to 300 feet, situated on the west shore of the Hudson River, at the mouth of Rondout Creek, 53 miles south of Albany and 89 miles north of New York, and served by the West Shore division of the New York Central Railroad. The city is connected by ferry with highways on the eastern side of the Hudson, and has additional transportation by steamboat, and by bus and truck lines over state highways. West of the city, back from the river, rise the first ranges of the Catskill Mountains, and in this region, 10 miles from Kingston, is the Ashokan Reservoir (q.v.). In the era of canal transportation Kingston, at the junction of the Delaware and Hudson Canal with the Hudson River, was active in boatbuilding. Through the latter half of the nineteenth century, great quantities of cement were produced here. The shops and factories of the city produce dresses, shirts, lace curtains, articles of wood, airplane parts, machinery, and refrigerators, and brick and cement are shipped.

Kingston has good public and parochial schools, 40 churches of different denominations, hospitals, theaters, hotels, and banks. Its parks and playgrounds, and the Kingston Youth Center, provide adequate recreational facilities. Besides the customary civic and service organizations, it has music and dramatic societies. In addition to the city's public library, there is a law library. The Daughters of the American Revolution maintain a museum stocked with local memorabilia, and in the "Senate House" (built 1676), the first sessions of the New York legislature's upper house were held. In the museum there is a collection of relics connected with colonial history, and the Revolutionary and Civil wars. Specially interesting exhibits are relics of the famous old Hudson River steamboats, particularly the steering wheel of the *Mary Powell*.

History.—The first permanent settlement was made here in 1652 by the Dutch who named the

place Esopus. A stockade was built in 1658 and on May 16, 1661, Governor Peter Stuyvesant granted a charter to the village which he named Wildwyck (Wiltwyck). By the Treaty of Breda, July 21, 1667, the settlement passed with the rest of the Dutch provinces along the Hudson River into the possession of the English; the first governor, Francis Lovelace, changing the name to Kingston in honor of his family seat, Kingston L'Isle, near Wantage, Berkshire, England. On Feb. 19, 1777, the first state convention of the State of New York adjourned from Fishkill to Kingston, and the first state constitution was proclaimed in front of the courthouse on April 22, 1777. On September 9, of the same year, Chief Justice John Jay opened in Kingston the first state supreme court. The first state legislature met here in September of the same year, but was dispersed by the approach of the British, who, under General Vaughn, entered the place on October 16, and destroyed nearly the whole town by fire, in revenge for the part taken in the War for Independence by Kingstonians. It was rebuilt, and, on April 6, 1805, incorporated as a village and chartered as a city on March 29, 1872, comprising the former villages of Kingston, Rondout (incorporated April 4, 1849), Wiltwyck which connected the two, and the hamlet of Wilbur. The city's government is administered by mayor, who holds office two years, and a common council. The water supply system is municipally owned, and draws from a reservoir at Woodstock, N. Y. Pop. (1950) 28,817.

KINGSTON, city, Ontario, Canada, an industrial, educational, and residential city of marked historic interest, the county seat of Frontenac County, situated at the mouth of the Cataraqui River, at the northeastern extremity of Lake Ontario. The Bay of Quinte, a winding arm of the lake enclosed by Prince Edward County, lies to the west, while eastward begins the well-known Lake of the Thousand Islands which gradually narrows into the main stream of the St. Lawrence. With its commodious harbor, sheltered by Wolfe and Amherst islands and having a grain elevator of 2,350,000 bushels capacity, Kingston commands the shipping of the Great Lakes and the St. Lawrence, being regularly served by the Canada Steamship and other freight and passenger lines. The Rideau Canal built (1827-1832) for military purposes to bypass the international portion of the St. Lawrence route between Montreal and Kingston, connects it with Ottawa but has ceased to be of either military or commercial importance though remaining, with its feeders the Rideau Lake and River, an exceptional attraction for pleasure craft of all kinds. The city is also on the main line of the Canadian National Railway between Montreal and Toronto, about 150 miles east of the latter; while the Kingston and Pembroke line leading to the north is now an integral part of the Canadian Pacific Railway system.

Frontenac County, traversed by the latter, is an area of lakes and streams in much favor with sportsmen and summer residents: it has scattered deposits of mica, feldspar, and corundum, but is not of importance agriculturally. Industrially however, Kingston is noted for its large locomotive, engine, and shipbuilding works; in the latter a graving dock 200 feet long and 16 feet deep owned by the Dominion government is under lease to the Kingston Shipbuilding Company.

er manufactures include aluminum, chemicals, tiles, biscuits, leather, and lumber. Altogether 65 establishments employ 5,556 and have a ss output of \$49,992,267 (1949).

The city is noted also as the site of Queen's iversity (q.v.), founded in 1841 as a Presby- an institution but now undenominational, ich grants degrees in arts and science, en- eering, and medicine, and has an enrollment 1,200 in arts alone; an important division is School of Mines, while Queens Theological llege (United Church) is an affiliate. A second ll-known educational institution is the Royal ilitary College of the Dominion government for e training of officers for the higher military mmands. Founded in 1876, it gives four-year urses in applied science and engineering. An ilitary school is an adjunct. Other institutions clude a general hospital (371 beds), in addition hich there are military and veterans' hospitals he Dominion government (of 50 and 150 ds respectively), and the Rockwood provincial ental institution (capacity 1,130). One of the ldest and largest penal institutions of the Do- minion government is in the adjacent suburb of ortsmouth, with a section at Collins Bay nearby: a 1950 there were 4,650 male and 90 female in- mates, the latter including all females in the Dominion under sentences of over two years.

Kingston, which has both Anglican and Ro- man Catholic cathedrals, is substantially built, characteristically of limestone, hence is popularly known as "the limestone city." With its attrac- tive parks and waterfront, and with immediate access to unusually picturesque scenery both by land and water, it has a large holiday and sum- tourist trade.

History.—Because of its strategic location gton is a notable name in Canadian history. present city was founded in 1783 by United pire Loyalists under circumstances of unusual lship. Eight years later it was the point at ch Sir John Simcoe, first governor of Upper ada, convened the legislative council of the ly founded colony for the drawing up of as for settlement and administration. For f a century it could be reckoned "the most siderable town" in Upper Canada. The first lin what is now Ontario was built in Kingston 1784, and the first newspaper was issued here 1810. In the war of 1812–1814 it was the base British naval operations on Lake Ontario in eral engagements with American forces operat- from Sacketts Harbor and Oswego opposite. e first steamship to be built in Ontario was ed here in 1816. After 1818, however, by ention with the United States, the naval was given up. As a military measure, ever, Fort Henry, overlooking the harbor, already been built, and was rebuilt and en- ed, notably by four Martello towers, to be the strongest fortification in Canada after e and Halifax. Notwithstanding a large ling industry which it had attracted, gh by now (1846) incorporated as a city, ston declined as an entrepot after the 1840's continued to play a large part in the political of Canada. In 1841, owing in part to its try strength, reinforced as this had been by recent completion of the Rideau Canal, it had chosen by Lord Sydenham, pioneer of re- ible government in Canada, as the first al of the newly united provinces of Upper Lower Canada—a distinction it retained until

1844. Thereafter, it is remembered as the con- stituency for which, with one interruption, Sir John A. Macdonald sat throughout his career as a leading architect of the Canadian Confederation in 1867 and as its first prime minister. Sir Oliver Mowatt, long time premier of the Province of Ontario, was also its representative, while the career of Sir Richard Cartwright, a prominent Liberal leader of the final quarter of the century, was associated with it in many ways as resident and parliamentarian.

The still earlier story of the Kingston site, however, leads far into the past—into the days of the Comte de Palluau et de Frontenac, the "fighting governor" of New France, under whose direction Sieur de La Salle in 1673 built a fort at the mouth of the Cataraqui ("Katarauqui" in French annals) and named it after his chief. It was the first outpost to be established by the French on the lower lakes west of Montreal. The immediate purpose was to overawe the Iroquois allies of New England in what is now the State of New York, and a historic pageant and confer- ence with them was staged on the spot at the same time by Frontenac. When the fort and surrounding area were ceded to La Salle three years later, it became a base for the famous expeditions which under his leadership discovered the Ohio, traversed the Upper Lakes and the Illinois country, and finally (1682) descended the Mississippi to its mouth. Abandoned owing to Indian pressure in 1689, but soon rebuilt, Fort Frontenac in 1756 was the point from which Louis Joseph de Montcalm launched his success- ful attack upon the British outpost at Oswego. It was taken and finally destroyed by the British two years later. Only after another quarter of a century was the site reoccupied and given its present name in honor of King George III. Fort Henry, the British successor of Fort Frontenac, after many decades of decay was restored as a museum in 1938 and with its interesting souvenirs of the past is today a special point of pilgrimage for tourists. A popular history of the locality is Miss Agnes Maule Machar's *Kingston of Old* (Toronto 1908). Pop. (1951) 33,459.

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KINGSTON, borough, Pennsylvania, in Luzerne County, at an altitude of 546 feet, situated on the Susquehanna River, opposite Wilkes-Barre, 18 miles southwest of Scranton, and served by the Delaware, Lackawanna and Western and the Lehigh Valley railroads. The principal in- dustry is coal mining. There are railroad repair shops here, and garments, cans, silk, rayon, nylon, and cigars are manufactured. Kingston was named from the Rhode Island town of that name. It has a library and is the seat of the Wyoming Seminary, founded in 1844.

It was settled in 1769 and in its early period it was called the "Forty Township" from the fact that the first permanent settlement was made by 40 pioneers. It was incorporated in 1857 and is governed by a mayor and council. In this area of Wyoming Valley (q.v.) occurred the Indian Massacre of 1778. Pop. (1950) 21,096.

KINGSTON ON THAMES, municipal borough, England, county seat of Surrey, on the Thames River, 12 miles west-southwest of Lon-

don, and connected to that city by an electric train. It is a part of Greater London and is known as a pleasure resort. The derivation of the name is uncertain, but it is said to have had its origin in an ancient stone in the marketplace of the city upon which were engraved the name of several early kings of England of Saxon line. This stone, tradition says, was, like the famous stone of the Scottish kings, a sacred object upon which the kings were crowned, and it was intimately connected with the traditional life of the Saxon sovereigns and people, with their mythology and religio-tribal ceremonies, according to certain archaeologists who have given it close attention and study. This stone was in the chapel of St. Mary until 1850.

The town itself is a place of considerable commercial and industrial importance. It manufactures aircraft, leather goods, plastics, and paint, and has metalworking shops. It has grown outside its original boundaries since 1880 and expanded westward. Pop. (1951) 40,168.

KINGSVILLE, city, Texas, and Kleberg County seat, at an altitude of 66 feet, situated 20 miles inland from the Gulf of Mexico, 34 miles southwest of Corpus Christi and 119 miles north of Brownsville, and served by the Missouri Pacific Railroad and federal highways. The country surrounding the city has diversified farms, and the mild and semiarid climate makes it possible to grow large quantities of olives and dates on them. There are palm trees in evidence, also groves of citrus fruit trees. Kingsville is a shipping point for their products and for the dairy and beef cattle raised here. Its chief manufacturing industries are a synthetic chemical plant, oil works and refineries, railroad shops, an electric power plant, and an ice factory.

The city is named after the King Ranch, and the county after Robert Kleberg, manager of the ranch and son-in-law of its owner. Containing over 987,000 acres, the ranch is known as one of the largest, if not the largest, in the world, and is probably the most scientifically and efficiently managed, with over 75,000 head of cattle and 3,500 horses roaming its plains.

In 1854 Richard King, formerly a steamboat captain on the Rio Grande, began buying land here for ranches, and eventually acquired an area of nearly 2,000 square miles. Artesian wells were driven in 1900 and humped Brahma cattle, immune to tick fever, were brought from India in 1915 and interbred with native stock. Hereford and Shorthorn are the stock with which the Brahmas are mixed.

Kingsville is primarily the King Ranch headquarters. The South Texas State Teachers College (1925) was reorganized here in 1929 and became the Texas College of Arts and Industries, with many courses beside the normal training. It has a 250-acre campus with varied experimental planting including citrus groves and date palms, and with Spanish and Moorish style buildings. The college has a marine biological laboratory on the coast near Corpus Christi, and it also has an experimental citrus farm near Weslaco in the Lower Rio Grande Valley. The town was incorporated in 1911; the city was incorporated in 1916, and is governed by a city commission. Pop. (1940) 7,782; (1950) 16,898.

KINGWOOD, a very handsome Brazilian wood, also known as violet wood, believed by

many to be a derived species by crossing, while others claim that it belongs to the species *Dalbergia cearensis* of Ceará, which has numerous representatives in India and the southern countries of Asia generally. Kingwood, which is generally very handsomely streaked with violet of different shades and densities of color, is used in the making of fancy cabinets and cabinet ornaments of smaller dimensions.

KINKAID, kin-kād', **Thomas Cassin**, American naval officer: b. Hanover, N. H., April 3, 1888. He graduated at the United States Naval Academy in 1908, and during the last months of World War I was gunnery officer aboard the battleship *Arizona*. Previously he had been attached to the British Navy as an observer. After the war he specialized in ordnance and war tactics, and in the fall of 1938 was assigned as a captain to the embassy at Rome as a naval attaché for air. He was withdrawn in March 1941 to take a sea command, receiving his rear admiral's stripe a month before Pearl Harbor. During 1942 he served against Japan, participating in the battles of the Coral Sea, May 4-8, Midway, June 4-6, Guadalcanal, August 7-9, and the Solomon Islands, November 14-15, and in 1943, as commander of naval forces in the North Pacific, he protected the landing of troops on Kiska, in August; the operation was unopposed, for the Japanese had abandoned this Aleutian island. He had been promoted vice admiral in June 1943, and in October he was transferred to the Southwest Pacific, taking command of all Allied naval forces in that theater under Gen. Douglas MacArthur (q.v.). During April-May 1944, he covered the landings on Bial Island and, in New Guinea, on Hollandia, and in June he was given command of the U.S. Seventh Fleet. In October 1944 he supported the invasion of the Philippines, inflicting great losses upon the Japanese in the critical Battle of Leyte Gulf, October 24-25. His ships shelled Ormoc November, and on Jan. 9, 1945, they bombarded enemy beachheads in Lingayen Gulf prior to the American invasion of Luzon. In the succeeding months he provided support to MacArthur's successive landings on islands of the Philippines and for the assaults on the east and west coasts of Borneo, which commenced in May 1945. As a full admiral, he landed troops in Korea in 1950 and received at Seoul the Japanese surrender. In January 1946 he was placed in command of the Eastern Sea Frontier and Atlantic Reserve.

KINKEL, kīng'kēl, **Gottfried**, German and art critic: b. Obercassel, Germany, Aug. 1815; d. Zurich, Switzerland, Nov. 13, 1884. Graduated in theology he entered the Protestant ministry, where he distinguished himself as an eloquent preacher, lecturer, and public speaker. Among his other duties he was lecturer in the University of Bonn from 1836 to 1848, from that time, though not regularly, his special subject being poetry, the history of art, and ecclesiastical history. His usefulness was cut short in his own country through his getting mixed up in the Revolution of 1848-1849. His arrest followed, but with the aid of his friend Carl Schurz (q.v.) he managed to escape and make his way to the United States, where he made his living for some time as a teacher of languages. Later he was in London and Zurich in the same capacity. He was never able to return to Germany.

He was a poet of some power and originality. Among his published works were *Gedichte*, 2 vols. (1843); *Otto der Schutz, eine rheinische Geschichte in zwölf Abentheuren*, a narrative poem which nearly 100 editions were published (1845); *Geschichte der bildenden Künste bei den kristlichen Völkern* (1845); *Nimrod*, a tragedy (1857); *Mosaik zur Kunstgeschichte* (1876); *Idyll aus Griechenland* (1883); and, with his wife, Johanna Kinkel, *Ersählungen* (1849).

KINO, *kē'nō*, a kind of gum which exudes from certain trees when an incision is made, and dried without artificial heat. The East Indian or Malabar kino comes from a leguminous tree (*Pterocarpus marsupium*); Bengal or Palas kino from *Butea frondosa*; and Australian or Botany Bay kino from *Eucalyptus resinifera*; West Indian from a third plant (*Coccolobis wrightii*). It consists of dark red angular fragments, rarely larger than a pea, and easily splitting into still smaller pieces. It is very soluble in spirits of wine, and in general behavior closely resembles catechu, and yields by similar treatment the same products. In medicine it is an astringent and tonic.

KINSTON, city, North Carolina, and Lenoir County seat; altitude 46 feet, on the north bank of the Neuse River, 25 miles east-southeast of Goldsboro, on the Atlantic Coast Line and Atlantic and East Carolina railroads. As one of the most leaf tobacco markets in the world, Kinston's chief commercial interests center upon this commodity. Fourteen warehouses and seven nurseries handle the crop during the marketing season each fall. Lesser industries produce farmers, lumber, paper boxes, bricks, cotton yarn, hosiery, nylon, shirts, and beverages. Cotton, tobacco, and tobacco are the principal products of the surrounding region.

History.—In 1740, the home of William Herge, New Bern planter and jurist, occupied the site of present-day Kinston. His property lay along the Neuse River at what was then known as Atkins Bank. The establishment of a town here was authorized in 1762 by Governor Dobbs. First known as King's Town in honor of George III, its name was changed to Kinston during the Revolution. The Lenoir County Courthouse, on the city's busiest corners, replaces two earlier buildings; the first, erected in 1792, was burned, and with it, Lenoir County's early records. On the courthouse grounds is a monument to Richard Caswell (1729–1789), first North Carolina governor under the constitution. Nearby is the scene of the Battle of Wise Forks, an engagement in 1865 which marked one of the last Confederate victories during the Civil War. Governed by city manager. Pop. (1950) 18,336.

KINSTON, Battle of. On March 1, 1865, Gen. Jacob D. Cox, with three divisions of infantry, pushed forward from New Bern, N. C., toward Goldsboro to open communication with Gen. William T. Sherman, who was marching northward from Savannah, and on the 7th two of his divisions were at Wise's Forks, near Southfork Creek, a tributary of the Neuse River, with a third division three miles in rear. A brigade was sent to a crossroad about midway between the main line and the creek. Gen. Robert F. Lee, with his Confederate division, crossed the

creek on the night and early morning of the 7th and 8th, flanked, surprised, and routed the advance brigade, taking over 900 prisoners and, pressing on, fell upon the left of Cox's line, but was repulsed. He renewed the attack and was again repulsed. On the 9th there was sharp skirmishing and the Confederates made repeated efforts to turn Cox's right, which were foiled. On the morning of the 10th Hoke and Gen. Daniel H. Hill made vigorous and successive attacks first upon the left and then on the right of Cox's line, but were repulsed, and Gen. Braxton Bragg, who was in supreme command, made no further effort, retreated across Neuse River during the night, burning all bridges behind him, left a small guard at Kinston and, with the rest of his command, hastened through Goldsboro to join J. E. Johnston, who was concentrating everything available to oppose Sherman. Gen. John M. Schofield joined Cox with troops from Wilmington, and reached Goldsboro on the 21st, Sherman joining him two days later. The Union loss at Kinston was 65 killed, 319 wounded and 930 missing; the Confederate loss is not known. D. H. Hill reports a loss in five brigades of 118 killed and wounded and 16 missing. Schofield estimated the entire Confederate loss at 1,500, which is probably excessive.

Consult Cox, J. D., *The March to the Sea*; Franklin and Nashville (New York 1882); id., *Military Reminiscences of the Civil War* (New York 1900).

KINTYRE, *kīn-tir'*, or **CANTYRE**, a peninsula of Scotland, between Kilbrannan Sound and the Atlantic, forming the division of Argyll. It is 40 miles long, from the Isthmus of Tarbert to the Mull of Kintyre, and has an average breadth of about six and one-half miles.

KINZIE, *kīn'zī*, John, American pioneer: b. Quebec, Canada, Dec. 3, 1763; d. Chicago, Ill., Jan. 6, 1828. His name was originally McKenzie. His father, a British army surgeon, dying soon after the boy's birth, his mother married again and removed to New York, John Kinzie was educated there, but, at the age of 10, ran away from home and made his way to Quebec where he was a silversmith's assistant for some years. He became a trader in the western United States at the age of 18, moved to St. Joseph River, Ohio, in 1796, and in 1804 established a post outside of Fort Dearborn on the site of the present Chicago, of which he was the earliest white settler. He also set up stations on the Illinois, Kankakee, and Rock rivers. He was very successful as a trader and, as a result of his honesty and generosity, made many friends amongst the Indians. It was due to this fact that his life and the lives of his family were saved during the massacre in 1812. After the end of the second war with England John Kinzie and his family returned to Chicago from Detroit where they had sought safety, though he himself had finally been taken prisoner by the British and sent to Quebec. He early recognized the possibilities of Chicago and acquired extensive real estate holdings.

Bibliography.—Kinzie, Mrs. J. H., *Wau-bun, the "Early Day" in the North-west* (New York 1856); Gordon, E. L. K., *John Kinzie, the "Father of Chicago"* (copyrighted 1910); Haydon, J. R., "The True Father of Chicago," *Thought*, vol. 7, pp. 5-18, June 1932.

KIOSK, *kē-ōsk'*, a Turkish word meaning pavilion. It has a tent-shaped roof, open on all sides and is supported by pillars, round the

foot of which is a balustrade. It is built of wood, roofed with straw or similar materials, and is chiefly erected to afford a free prospect in the shade, but it also serves to embellish a rural or garden view. This kind of pavilion has been introduced from the Turk and Persian into the English, French and German gardens. The word has, however, gradually acquired a wider meaning and is now applied to temporary or permanent structures of the type described above, irrespective of the purpose for which they are used or of the material from which they have been built. Thus pavilions for musicians in public parks, booths for the sale of newspapers and similar articles, are now called kiosks. The most famous Turkish kiosks are Bagdad Kiosk (Istanbul), summer palace of the former Sultans, Chinli Kiosk (Istanbul), dating probably from the 15th century and now housing part of the collection of the Imperial Museum of Antiquities; Yildiz Kiosk (near Istanbul), summer palace of the Turkish Sultan and frequently used to designate the late Turkish court and government.

KIOTO or **KYOTO**, kyō'tō, city, Japan, in the prefecture of the same name, and capital of Kyoto; situated on a flat plain about 26 miles north-northeast of Osaka. A high range of hills to the east separates this plain from Lake Biwa, and on these some of the finest temples connected with the city are built. The city is rectangular in form, the longer streets running north and south parallel to the Kamo River, which flows along the base of the ridge. At the north end are situated in an enclosure the plain wooden buildings where the emperors of Japan dwelt so long in seclusion. The Honganji temples of the Monto sect of Buddhists, fine structures of their kind and the center of the Buddhist faith in Japan rise at the south end of the city. The Imperial University, founded in 1897, and Doshisha, a Christian college, are located there. The pottery, porcelain, lacquer ware, velvets, and brocades of Kyoto are highly esteemed. Its embroideries, enamels, and inlaid bronze works are marvels of skillful handicraft. Kyoto has become a part of the great industrial Osaka-Kobe area, manufacturing electrical equipment, chemicals, and aircraft parts.

The city was founded as Heian-kyo, and was made the capital of Japan in 794 by Emperor Kwammu, and remained the classical capital until 1869 when the mikado and his court took up residence at Tokyo. Pop. (1948) 1,040,000. See also JAPAN.—*Political Divisions and Population*.

KIOWA, ki'ō-wā, (from ká'i gwū meaning "principal people" in their own language), one of the most warlike Indian tribes of the Southern Plains. Their language, long considered distinct, is now recognized to be related to that of the Tanoan-speaking Pueblos of the Rio Grande Valley, New Mexico. This relationship renders questionable claims to a traditional Kiowa homeland near the headwaters of the Missouri River at the eastern base of the Rockies in present Montana. However, in the 18th century the Kiowa played a prominent role in supplying Spanish horses to the Indian tribes of the upper Missouri. The Sioux claim to have driven the Kiowa from the Black Hills of South Dakota prior to 1800. Lewis and Clark located them on the North

Platte in 1805. Moving southward they made peace with the Comanche and later, with the Arapaho and Cheyenne. In the mid-19th century the Kiowa resided in the valleys of the upper Arkansas and Canadian rivers in west Oklahoma and southeast Colorado. With the Comanche allies they vigorously opposed white settlement on the Southern Plains and made daring raids far into Mexico carrying off large numbers of horses and many Mexican captives. They were nomadic buffalo hunters who lived in portable skin-covered lodges, held an annual sun dance and revered a small image called the Taimo. They owned large horse herds and were expert horsemen. Their camp circle comprised 6 bands, one of which was the Kiowa Apache, a small Athapaskan tribe traditionally associated with the Kiowa. The Kiowa were a party to the Medicine Lodge Treaty in 1867, and were assigned a reservation between the Washita and Red rivers in southwest Oklahoma in 1868. However, as long as there were buffalo to be hunted the Kiowa did not confine their activities to the reservation. Portions of the tribe remained hostile until early in the year 1875. Not until large numbers of their horses were captured and destroyed and several of their leaders imprisoned were the Kiowa pacified. They now live within the area of their 1868 reservation. In 1945 the Kiowa numbered 2,692.

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KIP, William Ingraham, American clergyman: b. New York, New York, Oct. 3, 1811; d. San Francisco, Calif., April 7, 1893. He was educated at Rutgers College and at Yale, where he was graduated in 1831. His theological training was acquired at the Protestant Episcopal Theological Seminary of New York City from which he graduated in 1835. The same year he was ordained deacon and priest. He was rector of St. Peter's, Morristown, N. J., 1835-1836; curate of Grace Church, New York 1836-1837; rector of St. Paul's, Albany, N. Y., 1837-1853; first missionary bishop of California, 1853-1857; first bishop of California, 1857 until his death.

He was the author of *The History, Object and Proper Observance of the Holy Season of Lent* (1843); *The Double Witness of the Church* (1844); *The Christmas Holidays in Rome* (1845); *Early Jesuit Missions in North America* (1846); *Early Conflicts of Christianity* (1850); *Catacombs of Rome* (1854); *Recantation, a study of domestic life in Italy* (1855); *The Unnoted Things of Scripture* (1868); *The Olden Time New York, 1664-1775* (1872); *Historical Scenes from the Old Jesuit Missions* (1875); *The Church of the Apostles* (1877).

KIPLING, John Lockwood, British Indian civil servant: b. Pickering, England, 1837; d. J. 26, 1911. He entered the Indian Education Service; was architectural sculptor in the Bombay School of Art, 1865-1875; and principal of the Mayo School of Art, and curator of the Central Museum, Lahore, 1875-1893. He is author of *Beast and Man in India* (1893).

Rudyard Kipling (q.v.), the distinguished novelist, was his only son.

KIPLING, Rudyard, English novelist and poet; b. Bombay, India, 30 Dec. 1865; d. London Jan. 1936. His father, J. L. Kipling, the author of 'Beast and Man in India,' was at that time a professor of sculpture in the school of art at Bombay. The novelist's mother, Jane Macdonald, a woman of beauty and talent, was a daughter of a Methodist preacher at Lichfield, in Staffordshire. The boy was named, as said, from Rudyard Lake in Staffordshire, where his parents first met. Taught to read by his mother, he was taken to England, at the age of five, and placed, with a younger sister, in the care of a relative at Southsea, a suburb of Portsmouth, where he remained for seven years, subject, it has been inferred from the opening chapter of 'The Light That Failed,' to a narrow and irksome discipline. In 1878, he was sent to the United Service College of Eastward Ho, near Bideford, in Devonshire. It was a school managed by civil and military officers for young men who intended to enter the Indian service. The rough life passed there is described in 'Stalky and Co.' (1899), wherein Kipling, who edited for two years the college *Chronicle*, figures as Beetle, the clever miscreant. In 1882 Kipling went out to India and obtained, by the aid of his father, a position on the editorial staff of the *Lahore Free Press and Military Gazette*. After five years of this, he became assistant editor of the *Pioneer* at Allahabad, a position which he held until 1889. While on these papers he gained his wide and intimate knowledge of Indian life and affairs at first hand. The newspaper office at this time, he has said, attracted "every conceivable sort of person" from respectable army-officers and missionaries down to inventors of breakable swords" and "every dissolute man that ever tramped the Grand Trunk Road." Out of these motley people, what they told him, and what he saw and divined of them, he built up his tales. By 1886, when appeared 'Departmental Ditties and Other Verses' in a buff paper wrapper, he was known to a large circle of readers in India by his short-stories, local verse-satires and parodies, in which he was contributing to his own and other newspapers. Then came 1888, the *annus mirabilis*. In that year Kipling published seven volumes of stories: 'Plain Tales from the Hills'; 'Soldiers Three'; 'The Story of the Dabys'; 'In Black and White'; 'Under the Stars'; 'The Phantom Rickshaw and Other Tales'; and 'Wee Willie Winkie and Other Child Stories.' In 1889, he made a tour of the world, with his stories and manuscripts, hoping especially to find a publisher in the United States. In this aim he was immediately disappointed. His severe strictures on America, contributed to the *Pioneer*, were afterward published in New York, and are now included in his works as a part of 'From Sea to Sea.' After a hard struggle, recognition in the literary world came to him in 1890, while he was staying in London. To this and the next year belong 'The Courting of Dinah Shadd' and 'Other Stories'; 'The City of Dreadful Night and Other Sketches'; 'Life's Handicap'; and 'The Light that Failed.' While in London, Kipling met Mr. Wolcott Balestier, an American author, with whom he collaborated

on 'The Naulahka.' In 1892, he married his friend's sister, Caroline Starr Balestier, and settled near the Balestier estate at Brattleboro, Vt., eventually building on the hillside a long, low bungalow, called the Naulahka. There he wrote many of his best poems and stories. For verse may be cited some of the 'Barrack-Room Ballads' (1892) and 'The Seven Seas' (1896); and for fiction, 'Many Inventions' (1893); 'The Jungle Books' (1894-95), and 'Captains Courageous' (1897). Leaving Vermont in 1896, Kipling went out to South Africa in 1898, and paid a brief visit to New York in 1899, where he barely escaped death from pneumonia. He had already made his home in a little English village near Brighton, in Sussex. To this later period belong 'The Day's Work' (1898); 'From Sea to Sea' (1899); 'Kim' (1901); 'Just-So Stories' (1902); 'The Five Nations' (1903), a volume of verse; 'Traffics and Discoveries' (1904), and 'Puck of Pook's Hill' (1906); 'Actions and Reactions' (1909); 'Rewards and Fairies' (1910); 'A History of England,' with R. C. L. Fletcher (1911); 'Songs from Books'; 'The Harbour Watch' (1913); 'France at War' (1915); 'Sea Warfare' (1916); 'Inclusive Verse' (1919); 'Letters of Travel' (1920); 'Irish Guards'; 'Land and Sea Tales' (1923); 'Debits and Credits' (1926); 'Book of Words' (1928).

Kipling has been one of the most striking figures in English literature since he first came to his own in 1890. He revealed India to the western world in a wonderfully direct and realistic way. Of rare perceptive powers, he saw the import of things and was able to convey it to his reader exactly. His early tales comprehended nearly every phase of the English government in India so far as it came under his eyes. In them jostle the English soldier, the English civilian, and the native man and woman. He kept most closely to the Punjab, which he best knew; to its sweltering heat under which the mercury climbs slowly to the top of the glass and the printing presses grow red hot; to its drenching rains, fever and cholera, in other seasons; its blinding sand storms, and the picnics and intrigues they interfere with; the immense perspective of a star-lit heaven; the filth and superstition of the natives; the haphazard process of law-making; villages invaded and blotted out by the jungle; and barrack-room yarns in which Tommy Atkins tells of his practical jokes, adventures and death grapples on the battlefield with giant Afghans.

The conditions under which he first worked demanded great concentration of incident and style. Engaged to sort telegrams and clippings or to write editorials for his newspaper, he had little time for developing his stories at length. They were dashed off rapidly from first impressions and made to fit into the scant space that was left for them. Merely the sketch or the outline was given in short jerky sentences, and the salient points in character were suggested by the epithet that comes only under the intense pressure of the moment. No other story-teller was ever able to put so much as Kipling into so little space. When more at his ease, he developed a type of his own running from 25 to 50 pages. Taken all in all, considering matter and treatment, the best story Kipling ever wrote is 'The Man Who Would be King.' What happens to one or

the other when the Englishman involves himself with the affairs of the Hindoo woman is told in 'Without Benefit of Clergy,' and 'Beyond the Pale.' For the uncanny and ghastly may stand 'At the Pit's Mouth' and 'The Gates of a Hundred Sorrows,' and for ludicrous extravaganzas 'My Lord the Elephant' and 'The Incarnation of Krishna Mulvaney.' Among superb battle pieces are 'The Taking of Lungtungpen,' 'The Lost Legion,' 'With the Main Guard,' and 'Drums of the Fore and Aft.' In the 'Jungle Books' Kipling gave fresh life and meaning to the ancient beast-fables of India.

Trained from the beginning in the short story, Kipling seems unable to break from its limitations. 'The Light that Failed,' and 'Captains Courageous' are most readable, but in neither case was the theme thoroughly grasped or the treatment adequate. 'Kim' is not so much a novel as a short story long drawn out. But within the province of the short story Kipling may be classed with Stevenson. A tendency to obscure symbolism, apparent now and then in his early work, grew upon him, to the harm, it would seem, of his art. 'They,' for example, beautiful as it is, was difficult to understand, and some of the other stories in 'Traffics and Discoveries' were clearly an attempt to transfer to prose the dramatic monologue of Browning. Combined with this endeavor is also a fondness for coincidences, which, though cleverly managed, are unnecessary and unconvincing. The romancing of machinery in '007,' and 'The Ship that Found Herself,' so striking and novel at the time of their appearance, have since ceased to interest. Much of Kipling's later work has, however, its own grace and beauty. 'An Habitation Enforced' is certainly a fine story, and 'Puck of Pook's Hill' is a notable experiment in English folk-lore and legend. The later work of Kipling includes three volumes dealing with phases of the Great European War. 'France at War' (1915) is a tribute no less to the iron nerve and valor of the soldiers of that country than it is to the quiet, patient, day-by-day heroism and self-sacrifice of the women. 'Fringes of the Fleet' (1915) visualises the work of the submarines, destroyers, and smaller craft of the British navy. 'Tales of The Trade' (1916) tells of the remarkably daring and successful work of the British submarines, especially at the Dardanelles, while 'The Eyes of Asia' (1918) gives the Asiatic view of the war and Europeans. In these, his latest works, Kipling shows all the astounding mastery in phrase-making, the same sure instinct for the inevitable word, that first brought him into fame.

It should be remembered that Kipling was a verse-maker before he wrote tales. As early as 1881 appeared for private circulation his 'School Boy Lyrics.' 'The Departmental Ditties' were humorous and satirical jingles, which were originally thrown off without effort to fill in the blank spaces of his newspaper when other copy was wanting. His first great success was with 'Barrack-Room Ballads,' mostly in the slang of the British 'Tommy' dialect. They are not narrative ballads of the traditional type; they are rather songs with choruses and refrains, easily lending themselves

to memory. In their kind there is nothing better than 'Tommy,' 'Danny Deever,' 'Fuzzy Wuzzy,' 'Soldier, Soldier,' and 'Mandalay,' wherein "the very refuse of language" is made poetical. Kipling's theme broadened with time. No poems of the present generation are better known than 'The Recessional' (1897), composed on witnessing the naval review Spithead on the occasion of Queen Victoria's diamond jubilee, and 'The White Man's Burden' (1899), an appeal to the spirit of imperialism in the United States. Something of the same exalted strain characterizes his short poem written on the outbreak of the Great European War, 'For All We Have and Are.' He was awarded the Nobel prize in literature in 1907. See BARRACK-ROOM BALLADS; JUNGLE BOOKS, THE; SOLDIERS THREE; KIM.

Bibliography.—Among the collected editions of Kipling's works in verse and prose are the 'Outward Bound' and the 'Swastika,' 'A Kipling Primer,' by F. L. Knowles (Boston 1899) contains a brief biography, and bibliography to date. Richard Le Gallienne 'Rudyard Kipling' (London and New York 1900) is the most complete estimate. Consult also 'Rudyard Kipling, the Man and His Work' (London 1899) by G. F. Monkshouse (the pen-name of W. J. Clarke); Young, 'Dictionary of Characters and Scenes in the Story and Poetry of Rudyard Kipling' (1911); D. Brand, 'Handbook to the Poetry of Rudyard Kipling' (1914), and a biography by Hopkinson (1930).

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KIPPER, a kippered herring, that is not preserved by smoking or pickling. Ancient in Scotland the word signified a salmon taken after the spawning season, and split, salted and dried, because of its inutility when fresh.

KIP'S BAY, Battle of, in the American Revolution. When Washington retreated from Brooklyn after the battle of Long Island (q.v.) he took position on Harlem Heights, New York, leaving troops lower on the island to oppose Howe's advance. On 15 Sept. 1777 Howe began to land his troops at Kip's Bay where the Americans had thrown up defensive works. When the British advanced the Americans became panic-stricken and, despite the efforts of Washington and Putnam, fled in disorder, whereupon all the troops were withdrawn to the position at Harlem Heights (q.v.). Consult Johnston, H. P., 'The Campaign of 1776'; id., 'Battle of Harlem Heights'; Lossing, 'Field-Book of the Revolution,' (Vol. II, p. 610 *et seq.*); Lowell, E. J., 'Hessians in the Revolution' (p. 72); Jones, 'New York in the Revolution' (Vol. I, p. 604); Livingston, William F., 'Life of Putnam' (pp. 308-309).

KIPTCHAK, *kēp-chāk'*, or **KAPTCHAK** the "Kingdom of the Golden Horde," the successor to the kingdom of the famous Mongol conqueror, Genghis Khan, by whose descendants it was ruled almost to our day. It was very much mixed up with the affairs of Russia for many years, and the Romanoffs, the last royal Russian family, had in their veins the blood of the rulers of the Golden Horde, which at one time included much of modern Russia reaching as it did westward to the Dnieper

and extending far into central Asia. Its capital, Sarai, which was founded on the Volga in 1242, became, in the course of time, noted for its wealth, barbaric splendor and slave market, where the Russians taken in the almost ceaseless contests between Mongol and Slav, were sold. In 1395 the Terrible plundered Sarai and the surrounding country in 1395, and it suffered several times in later years at the hands of the Russians. The kingdom of the Golden Horde before whose magnificent barbaric court many a powerful Russian prince was forced to bow for centuries finally fell because of dissensions within itself which divided the kingdom into two independent governments. These fell, one by one, before the growing power of the grand princess of Russia, but not without many a bloody struggle which the Slavs long remembered. (See GENGHIS KHAN). Consult any good history of Russia; also Curtin, *The Mongols* (Boston 1908); Douglas, *Life of Genghis Khan* (London 1877); Holworth, *History of the Mongols* (London 1877-88); Hoyle, *History of the Mongols*. (London 1890); Johnston, *Famous Cavalry Leaders* (Boston 1908).

KIRBY, kër'bī, William, Canadian author; b. Kingston-upon-Hull, England, Oct. 13, 1817; d. 1906. He removed to Canada in 1832. In 1839 he went to Niagara, Ontario, where he edited and published the *Mail* for 25 years, and from 1871 to 1895 was collector of customs. He published *U. E., a Tale of Upper Canada*, a poem (1859); *Le Chien d'Or*, a novel (1877); *Pontiac* (1887); *Canadian Idylls* (1888); *Annals of Niagara* (1896). His title to fame rests on his great historical romance, *The Golden Dog*, a work that depicts with remarkable power the historical personages associated with the last years of the French regime in Canada, and has been instrumental in sending thousands to visit the city of Quebec, in which the scene of the romance is laid.

KIRCHER, kīr'khūr, Athanasius, German scholar and mathematician: b. Geisa, May 2, 1601; d. Nov. 28, 1680. He entered the Jesuit order, and taught ethics and mathematics at the University of Würzburg until 1631. During 1635-43 he was a professor at the College of Rome, and thereafter he devoted himself to scientific research. His pioneer works on Egyptian hieroglyphics included *Lingua Aegyptica restituta* (1643). In his *Ars magna lucis et umbrae* (1646) he described the magic lantern, the invention of which is sometimes attributed to him, and reputedly he perfected the aeolian harp and the speaking tube. His notable collection of antiquities was bequeathed to the College of Rome.

KIRCHHOFF, kerk'höff, Charles William Henry, American editor and steel expert: b. San Francisco, Calif., March 28, 1853; d. Asbury Park, N.J., July 22, 1916. He graduated at the Royal School of Mines, Clausthal, Germany, in 1874, and after two years as chemist at the Delaware Lead Mills, Philadelphia, he entered technical journalism. In 1884, following experience with the *Metallurgical Review* and the *Engineering and Mining Journal*, he was appointed editor in chief of the *Iron Age*. He retired in 1909. In 1898-99, and again in 1911-12, he served as president of the American Institute of Mining and Metallurgical Engineers.

KIRCHHOFF, Gustav Robert, German physicist: b. Königsberg, 1824; d. 1887. Graduated from the university of his native city, he was elected professor of physics at Breslau (1850), and four years later he went in the same capacity to Heidelberg, and from there to Berlin (1875-87). He made many original investigations in the realm of physics and was joint discoverer with Bunsen of the spectroscope. His collected works, consisting principally of essays on his special subject of teaching, physics, were published in 1882, and a second edition was issued four years after his death.

KIRCHHOFF, kerk'höf, Johann Wilhelm Adolf, German writer and classical scholar: b. Berlin, 1826; d. 1908. Educated in his native city he was a teacher in various colleges, finally becoming professor in Berlin University (1865-1908). He was an indefatigable worker in the field of classical philology, linguistics, mythology and antiquities. A great deal of his investigations saw the light in print, hence his publications are many, and all of them are distinguished by depth of thought, excellent judgment and careful and minute investigation. Among the most noteworthy of his published works are *Umbriische Sprachdenkmäler* (1849-51); *Die Stadtrecht von Bantia* (1853); *Euripides* (1855); *Die homerische Odyssee und ihre Entstehung* (1859); *Ueber die Entstehungszeit des herodotischen Geschichtswerkes* (1870); *Studien zur Geschichte des griechischen Alphabets* (1874); *Thucydides und sein Urkundenmaterial* (1895), and edited editions of *Plotinus* (1856); *Aeschylus* (1880); *Respublica Atheniensium* (1881); *Christian Inscriptions*.

KIRCHWEY, George Washington, American writer on legal subjects: b. Detroit, Mich., July 3, 1855. Graduated in law from Yale University, he practiced his profession in Albany, N.Y., for 10 years (1882-91), where he was dean of the Albany Law School and professor of law in Union University (1889-91). On leaving Albany he became professor of law in Columbia University (1891-1901), dean of the law school there (1901-10), and Kent professor of law Columbia University (1902-16), warden of Sing Sing Prison (1916). Professor Kirchwey has been president of numerous societies of note, legal, and otherwise, among them the American Peace Society, American Society of International Law and the American Institute of Criminal Law and Criminology, and he has contributed extensively to legal, technical and other magazines. In 1917 he became head of the department of criminology of the New York School of Social Work. Among his published works are *Historical Manuscripts of the State of New York* (which he edited, 1887-89); *Readings in the Law of Real Property* (1900); *Select Cases and other Authorities on the Law of Mortgage* (1901). He died March 3, 1942.

KIRENSK, kī-rěnsk, a district and town in the Irkutsk region of the R.S.F.S.R. The district, northwest of Lake Baikal, has valuable mineral resources, particularly coal, iron and salt, though the inhabitants (about 50,000) are chiefly engaged in hunting and trapping. The town (pop. 5,000) is located at the confluence of the Lena River and the Kirenga. From Taishet, on the Trans-Siberian Railway to the southwest, a line runs to Kirensk and continues

to the eastward as far as Komsomolsk; and from Kirensk is also a motor highway to Irkutsk. During summer months freight vessels travel down the Lena from Kirensk to Yakutsk, capital of the Yakut A.S.S.R., a distance of 1,100 miles.

KIRGHIZ, kîr-gêz, **SOVIET SOCIALIST REPUBLIC**, or **KHIRGIZIA**, a union republic of the U.S.S.R., situated in Soviet Central Asia. It is bordered on the north by Kazakhstan, on the west by Uzbekistan, on the southwest by Tadzhikistan, and on the southeast and east by the Sinkiang province of China. The area is 75,950 square miles, and the population in 1941 was 1,533,439. It is a country of great mountain ranges, the summits always snow-covered, and between them are fertile valleys and numerous lakes; the latter include Issyk Kol, having an area of 2,395 square miles, Chatir Kol and Son Kol. Stock raising has long been a principal occupation of the people. The country produces a fine type of small horse, as well as cattle and sheep which have been much improved by crossbreeding. Wheat is the principal grain crop, and other products of the soil, largely dependent upon irrigation, include sugar beet, cotton, hemp, barley, oats, tobacco and *kenef*, the last an indigenous fibrous plant impervious to water. The chief orchard fruits are apples, apricot, peach and melon. Kirghizia is rich in mineral wealth, 60 of the known elements having been discovered. Improved means of transportation have given great impetus to the production of coal, which has replaced in the factories of Tashkent coal formerly imported from the Ukraine. Mercury and lead are produced in considerable volume, and other deposits mined commercially include indium, gallium, niobium, tin, zinc, antimony, tungsten and gold. Hydroelectric power is employed extensively in the republic's cotton mills and clothing and shoe factories. Frunze, the capital, lying in the valley of the Chu River, has a population of 100,000; among other towns are Rybachy, Karakol and Dzhalal-Abad. A motor highway connects Frunze with Osh, in the southern part of the country, and with Kashgar, in Chinese territory. A spur line from the Turkestan-Siberian Railroad in Kazakhstan runs to Frunze and continues to Rybachy, on Lake Issyk Kol; and Osh and Dzhalal-Abad are connected by rail with the Central Asian system, in Tadzhikistan. The Kirghiz-Kazaks are a widely-spread nomadic people, of Turkish-Tatar race, who inhabit the steppes that extend from the lower Volga and the Caspian Sea in the west to the Altai and Tien Shan Mountains in the east, and from the Sea of Aral in the south to the Tobol River on the north. The term Kirghiz belongs only to the Kara-Kirghiz (Black Kirghiz, called also Buruts or Pruts). In their physical type they belong to the Mongolian race. They speak the Turkish dialect of the Uzbeks, and they profess the Mohammedan faith. Their food is chiefly mutton and horseflesh, with koumiss or fermented mare's milk, from which they extract an intoxicating spirit. Kirghizia formed part of the Turkestan autonomous republic within the R.S.F.S.R. which succeeded the Russian imperial governor generalship of Turkestan after the Revolution of 1917. Together with Kazakhstan, it was reconstituted in 1925 as the Kirghiz S.S.R.; Kazakhstan was detached in 1936 to form

the Kazak S.S.R.; and on March 23, 1937 the Kirghiz S.S.R. became a separate constituent republic of the U.S.S.R.

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KIRI, a large tree *Paulownia tomentosa* of the family Scrophulariaceae, cultivated in China and Japan for its extremely light wood. From its seeds an oil is obtained which is used in waterproofing paper. See PAULOWNIA.

KIRIN, kē-rên', the central province of Manchukuo (Manchuria), and its capital. The name, which means "Lucky-forest," is in Chinese Ki-lin. Kirin province lies between the Sungari River on the north, the Usuri River and Russia on the east, Korea and Shengking province on the south, and the Sungari River on the west. A part of the country is very mountainous, the elevation rising, in places, to the regions of perpetual snow, but that section of the province which lies within the bend of the river Sungari is level and inclined to be low in places. The highest range of mountains in Kirin is the Shan-ah-lu, the upper ranges of which are known as Chang Peh-Shan, or Ever-white Mountains. These rise in places, to an elevation of over 10,000 feet, are covered, in their highest peaks, throughout the year with snow, hence their name. In addition to the two important rivers already mentioned Kirin has a third great river, Hurka, which is inferior only to the Sungari, which, after a long and tortuous course, ultimately reaches the Amur. The Usuri, which is over 500 miles in length, is also a tributary of the Amur. A large part of the province is level and well adapted to agriculture and cattle raising, but it is not so largely cultivated as the provinces of China. The mountainous regions are still in a state of sylvan wildness and the tigers, mountain cats and various species of wild animals and birds abound, and the rivers and streams in the upland course are abundantly filled with fish. Among the products of the agricultural section of the country are barley, corn, millet, pulse and other grains, potatoes and other root crops, and in the low sections rice, while poppies are grown everywhere. Among the important cities of the province are Kirin, 138,910; Ashiho, 60,000; Petuna, 40,000; San Sing, 30,000; Lalin, 26,000; and Ninga, 25,000. The capital Kirin, which lies on the foothills on the shore of the Sungari River, is the most beautiful and favorably situated town of the province. It is surrounded by tobacco plantations and upland forests, which furnish it with a very considerable portion of its export trade. The tobacco goes to China, the timber to the regions farther down in the flat country where timber is not so plentiful. Owing to the abundance and excellent quality of the wood in the market the city does an extensive business in the building of boats for river trade; for this reason the Chinese call the city the "Navy Yard" ("Chuen Chan"). The neighboring mountains are rich in minerals, some of which has been exploited, especially silver, but most of it awaits future development. Kirin is well paved and is one of the cleanest cities in the province. Its many

tended squares and small parks give it a decided homelike appearance. Pop. of province (1950) 930,818.

KIRK, Alan Goodrich, American naval officer and diplomat: b. Philadelphia, Pa., Oct. 30, 1888. Graduate of the United States Naval Academy (1909), he served as naval attaché at London (1939-1941) and was director of naval intelligence 1940-1941. During World War II he commanded the amphibious force, United States Atlantic Fleet, which invaded Sicily (1943) and the United States naval forces in the invasion of Normandy (1944). He was vice admiral in command of the United States naval forces in France, 1944-1945, and acting Allied naval commander of the expeditionary force (1945). Retiring in 1946 with the rank of admiral, he was ambassador to Belgium and minister to Luxembourg (1946-1949) and ambassador to Russia (1949-1952), returning to the United States to head the Psychological Strategy Board, which coordinates United States Government information and psychological programs to combat communist propaganda. He was awarded the Legion of Merit (1943), Distinguished Service Medal (Army) in 1944, and the Distinguished Service Medal (Navy) in 1951.

KIRK, Edward Norris, American Congregational minister: b. New York, N. Y., Aug. 14, 1811; d. Boston, Mass., March 27, 1874. Following his graduation from Princeton Theological Seminary in 1825 he was an agent for the Board of Foreign Missions and in 1829-1837 was pastor of the Fourth Presbyterian Church of Albany, N. Y. While there he helped found the Troy Theological Seminary, forerunner of the Union Theological Seminary of New York City. In 1836 he inaugurated regular worship for American Protestants in Paris. An outspoken abolitionist, he was president of the American Missionary Association.

KIRK, Grayson Louis, American educator: Jeffersonville, Ohio, Oct. 12, 1903. After attending Miami and Clark universities he obtained a Ph.D. degree at the University of Wisconsin, where he taught political science from 1929 to 1931. In 1940 he joined Columbia University as associate professor of government, becoming professor in 1942. He headed the security section, division of political studies, of the United States Department of State, 1942-1943, and in 1945 was an adviser at the San Francisco conference to organize the United Nations. In 1950 he became president and provost of Columbia, and in 1953 succeeded Dwight D. Eisenhower as president of the university. He is the author of *Philippine Independence* (1936) and *The Study of International Relations* (1947).

KIRK, Sir John, Scottish naturalist and administrator: b. Barry, Angus, Scotland, Dec. 19, 1877; d. Sevenoaks, Kent, England, Jan. 15, 1922. Serving as a physician in the Crimean War (1855-1856) he accompanied David Livingstone, physician and naturalist on his second expedition to the Zambezi River in Africa (1858-1863), exploring Lake Nyasa and Victoria Falls and making large collections of the flora of tropical Africa. He then went to Zanzibar, island off the east coast of Africa, as a medical officer in 1866. By 1873 he had become consul general and by 1878

political agent, assuming a large measure of control over the island. At his insistence the sultan declared slavery illegal in the island in 1873.

While opposing German expansion in the island, Kirk in 1887 obtained from the sultan large territorial concessions for the British. The Kirk Range, west of the Shire River in Nyasaland, is a tribute to his work.

KIRKBRIDE, Thomas Story, American physician: b. near Morrisville, Bucks County, Pa., July 31, 1809; d. Philadelphia, Dec. 16, 1883. Of Quaker ancestry, he received his M.D. from the University of Pennsylvania in 1832 and was appointed resident physician of the Society of Friends' insane asylum at Frankfort, Pa. In 1841 he became superintendent and physician in chief of the Pennsylvania Hospital for the Insane, an office he held until his death. He was president of the Association of Medical Superintendents of American Institutions for the Insane, wrote a textbook for the regulation of such hospitals, and in 1853 was the first head of such an institution in the United States to separate the sexes in distinct buildings. In many other respects he was in the forefront of American alienists, holding advanced views on the medical and hygienic treatment of the insane.

KIRKCALDY or KIRKALDY, kûr-kôl'dî, **Sir William**, Scottish soldier and politician: b. 1520; d. Aug. 3, 1573. Active in the Scottish religious wars, he took part in the murder of David Cardinal Beaton at Saint Andrews (1546). After serving as secret agent for Edward VI of England he took up the cause of the king of France. He opposed the marriage of Mary Queen of Scots to Lord Darnley (1565). On his return to Scotland he became prominent as an ultra-Protestant leader and took part in the murder of David Rizzio, Mary's favorite, and contributed powerfully to her defeat at Langside.

Then, finding Protestantism not altogether conducive to his ambitious schemes, he deserted the Protestant party and took up the queen's cause, a step that led to his own downfall. Retreating to Edinburgh Castle before a strong English force, he held it for five years but in the end surrendered and was hanged. John Knox, with whom he had once been hand in glove, later denounced him as a traitor, murderer, and cutthroat.

KIRKCALDY, kûr-kôl'dî; -kô'dî; -kâ'dî, seaport burgh in Fife County, Scotland. Situated on the Firth of Forth, 10 miles north of Edinburgh, it has an extensive and excellent harbor. Because it extends for about four miles along the coast, it is often called "Lang town." It is in a coal mining region and exports much coal to the United States, Canada, and South America. Its manufactures include iron and steel products, linoleum and oilcloth, farm machinery, textiles, and pottery. It is the birthplace of the economist Adam Smith; Thomas Carlyle once taught school there. The town dates back to the 12th century; since 1930 it has included Dysart. Pop. (1951) 50,518.

KIRKCUDBRIGHT, kûr-kôo'brî, burgh, southern Scotland, seat of Kirkcudbright County, at the head of the Dee River estuary, 25 miles southwest of Dumfries. The town and surrounding region saw much warfare through the centuries. Captured by Edward I in 1300, it was once under the royal steward and the Douglas family

der Heiligen im christlichen Altertum' (1900; English trans., by J. R. McKee, 1910); 'Illustrierte Geschichte der katholischen Kirche' (Part I, 1905); 'Die Geschichte der Kirche, ein Zeugnis ihrer höheren Sendung' (1912); and 'Die Frauen des Altertums' (1912). He collaborated in other historical works, notably with Ehrhard in 'Forschungen zur christlichen Literatur- und Dogmen-geschichte' and with Büchi in *Zeitschrift für Schweizerische Kirchengeschichte*, and contributed articles to 'The Catholic Encyclopedia.' He died 6 June 1923.

KIRSCH, or **KIRSCHWASSER**, kërsh'-väs'ër, a liquor in general use in Germany. It is made from cherries, hence its name which signifies literally "cherry water." It is a distilled liquor and is made chiefly in the Black Forest and in Switzerland. In English-speaking countries kirschwasser is frequently called cherry-brandy. This is really what it is; but it must be distinguished from the ordinary cherry brandy which is made from a mixture of the juice of cherries and ordinary brandy.

KIRSCHNER, kërsh'n'ër, **Lola (Aloysia)**, Austrian novelist; b. Prague, 1854. She wrote very much under the pseudonym of Ossip Schubin, a name by which she is still generally better known to the reading public of her works than by her own. Her nom-de-plume she took from 'Helena,' a novel by Turgeneff. She came of good family and was privately educated by excellent tutors at home, at Lockov. She traveled extensively and frequented the capitals of Europe where the fashionable sets of the various nations were and still are accustomed to meet. This society in Berlin, Brussels, Paris and Rome attracted her irresistibly and she set herself to study it. She soon began to reproduce it in works of vivid presentation and truth of characterization. She is especially severe on the military and ruling classes of Austria which she depicts with great detail intermingled with biting sarcasm. All her works show great talent; but they are too often marred by haste and want of care in details. Among her published works are 'Ehre' (1882); 'Die Geschichte eines Genies' (1884); 'Unter Uns' (1884); 'Gloria Victis' (1885); 'Erlachhof' (1887); 'Es fiel ein Reif in der Frühlingsnacht' (1888); 'Ausbein aus dem Leben eines Virtuosen' (1888); 'Boris Lensky' (1889); 'Unheimliche Geschichten' (1889); 'O du mein Oesterreich' (1890); 'Finis Poloniae' (1893); 'Toter Frühling' (1893); 'Gebrochene Flügel' (1894); 'Die Heimkehr' (1897); 'Slawische Liebe' (1900); 'Marska' (1902); 'Refugium Pecatorum' (1903); 'Der Guadenschuss' (1905); 'Der arme Nicki' (1906); 'Primavera' (1908); 'Miserere nobis'; 'War and America' (1914).

KIRTLAND, kért'land, **Jared Potter**, American physician and educator; b. Wallingford, Conn., 10 Nov. 1793; d. Cleveland, Ohio, 10 Dec. 1877. He studied in the medical department of the University of Pennsylvania and was graduated from that of Yale in 1815; practised at Wallingford (1815-18) and Durham (1818-23), Conn., from 1823 at Poland, Ohio; in 1829-32 and 1834-35 was a member of the Ohio Legislature; and was professor of the theory and practice of medicine in the Ohio Medical College (Cincinnati) in 1837-42. In

1843 he assisted in founding the medical department of the Western Reserve University where he was professor of the theory and practice of medicine in 1843-64. He assisted in founding and became president (1845) of the Cincinnati Academy of Sciences, from 1865 the Kirtland Society of Natural History. His zoological studies are of great importance. He discovered parthenogenesis in insects and the distinction of sex in the species *Unionida*.

KIRWAN, kër'wän, **Richard**, Irish writer and scientist; b. Cloughballymore, County Galway, 1733; d. 1812. Educated in France by the Jesuits he was graduated in law and began the practice of his profession, which he soon largely neglected for the study of the natural sciences, for which he had shown special aptitude while in college. He was one of the first great and accurate students in English of mineralogy and the composition of acids. He also gave considerable attention to scientific agriculture. He was looked upon, in his day, as one of the greatest of scientific thinkers and honors came to him from many quarters. He was elected a member of the Royal Society in 1780 and of the Royal Dublin Society, both of which societies presented him with gold medals for brilliant work done in connection with them. He had a very wide range of acquaintances among the scientific and learned of Europe, with all of whom he was very popular on account of his great learning, his ability to consecutive and careful thought and his genuine Irish wit and good humor. Among his writings which cover a wide range of subjects all of which are handled in a truly scientific manner, are 'Elements of Mineralogy' (1784); 'Essay on Phlogiston and the Composition of Acids' (1787); 'Temperatures of Different Latitudes' (1787); 'Geological Essays' (1799); 'The Analysis of Mineral Waters' (1799); 'Logick' (1807); and 'Metaphysical Essays' (1811).

KIRYU, kër'yoo', a Japanese city in the prefecture of Gumma. It lies north by north west of Tokio, by which it is connected by rail over a distance of some 80 miles. It is a very considerable local trade, has been growing steadily of late and produces extensive quantities of excellent silk, for the manufacture of which and of satin it has large mills fitted with the latest modern machinery. Kiryu is one of the most progressive of the smaller cities of Japan. Pop. about 40,000.

KISER, ki-zër, **Samuel Ellsworth**, American journalist and author; b. Shippensburg, Pa., 2 Feb. 1862. During the Civil War was taken by his mother to Washington, D. C. where his father, a soldier, was stationed for a brief period. He entered journalism in 1881, later engaged in editorial work in Chicago and has been a regular contributor since 1900 to magazines and newspapers. He is a lecturer and advertising specialist. He published 'Budd Wilkins' (1898); 'George' (1900); 'Love Sonnets of an Office' (1902); 'Ballads of the Busy Days' (1902); 'The Whole Glad Year' (1911); 'The Land Little Care' (1912); 'Glorious Day' (1922); 'His to Laugh' (1927).

KISFALUDY, kish'fö-lü-dí, **Alexander (Sandor)**, Hungarian poet and dramatist.

g, Zala County, 27 Sept. 1772; d. in his town, 28 Oct. 1844. He was an elder brother of Karoly Kisfaludy (q.v.) and with him exercised a notable influence upon Hungarian literature and language. Coming of a family he received an excellent education at Pressburg; and on graduation entered the Austrian army where he proved a active and efficient soldier during several campaigns, in one of which he was made prisoner and remained in captivity for some time. This captivity brought him into contact with Western literature and gave him a new view of literary life. On his return to Hungary he at once began devoting all his attention to literature; and he soon met with great success. As the elder brother, to him he inherited the paternal estate, which he continued to live at his home and where he led the life of a country gentleman. His literary genius lay in the same age (29) as his brother when he appeared before the public with a serious literary effort, which in his case was 'Himfy's Love' ('Himfy szerelmei'). His first effort met with general approbation, and he continued one morning to find that he had literally become famous overnight. His poem was read recited everywhere and by everyone in middle and upper class society in Hungary. This was followed in 1807 by a continuation of the now generally known as the second part 'Himfy's Loves,' which was also well received by the public. This was followed, in the next year, by 'Legends of the Olden Time in Hungary' ('Regek a magyar eloidobol'); 'Julia's Love' ('Gyula szerelme'); and his historical dramas, mostly tragedies, of which the most noteworthy are 'Hunyadi Janos' and 'László.' Many of his works have been translated into German, and some of them into this latter language into French, English and other of the languages of Europe. Both he and Machik have turned his 'Legends of the Olden Time' into German; and 'Julia's Love' has also been translated into German by Hell-Ennisburg. An excellent edition of Kisfaludy's works appeared in Budapest in

1882. He also wrote good poems and excellent short stories and longer tales and talented humorous pictures of Hungarian life. His efforts in this direction created a school of younger writers who, if they did not equal the work of their master, at least helped to make the literature of the country imaginative and truthful to life. But his services in the development of the Hungarian theatre surpass all his other efforts and have justly made him one of the foremost figures in Hungarian literary life. The Kisfaludy Society, founded in honor of him and his brother, to promote the interests of Hungarian literature, has recognized, to the full, his literary services and has made his work well known, not only at home but in foreign countries. Consult Bánóczi, for his life and works (Budapest 1882); Gaal, 'Theater der Magyaren' (a translation of the best of his dramatic works, Bonn 1820); Hornyánszky, J., 'Irene' (translated into German, 1868). One of the best collections of his works is that published by Bánóczi at Budapest in 1893. Previous to this six other editions had already been published, and several complete or partial editions have been issued since then.

KISFALUDY, Charles (Karoly), Hungarian poet and dramatist: b. Tet, 5 Feb. 1788; Pest, 21 Nov. 1830. A brother of Sandor Kisfaludy (q.v.), he early showed the family interest for literature and its talent for imaginative thinking and description. After some time spent in literary preparation he went to Pest in 1817 and there began turning out, with wonderful rapidity, work covering almost every field of literary endeavor, until he soon placed himself in the fore rank of poets and dramatists in his own country. He became by far the most popular of the Hungarian dramatists of his day; and he made of comedy a feature of the Hungarian stage to such an extent that he is to-day looked upon as the founder of the Hungarian drama. Many of his comedies have been translated into German, French and other European languages. He also wrote tragedies which are only slightly inferior to his comedies, and superior to the work of his contemporaries. The best of his tragedies is 'Irene'; and of his comedies are 'The Murderer' and 'The Suit-

KISH, Dynasty of (4401 to 3815 B.C.), the second of the Babylonian dynasties of the Sumerian rulers. It followed the Opis dynasty, which appeared in the north of Arabia, and east of the Tigris, and counted six known rulers. The Kish dynasty arose in the east of Babylonia superseding the Opis rulers; and the sovereigns appear to have been both temporal and spiritual rulers, that is, they were both high priests and kings; and it seems probable that, at this time in the history of Babylonia, belief was held that the sovereigns were of divine origin and hence the representatives of the gods, or at least the chief of the deity upon earth. That the Kish sovereigns played an important rôle in Babylonia in their day is evident from their written records which have survived the ravages of time. These are comparatively plentiful. They show that the dynasty consisted of at least eight rulers designated as follows: Azag Bau, who is said to have been a woman and to have reigned 100 years; Basha Enzu, 25 years; Ur Zamama, 6 years; Zimudar, 30 years; Uziwidar, 6 years; Elmuti, 11 years; Igu Babbar, 11 years; Naniyachi, 3 years; a total of only 192 years, more than half of which time is occupied by the reign of one sovereign out of the eight. Yet the total length of the duration of the dynasty is given as 586 years. Undoubtedly the first sovereign, Azag Bau, is either altogether traditional, or is the family or tribal name of a number of sovereigns. Even at this early period in their history the Sumerian people gave every evidence of having been highly advanced in civilization. They had their own peculiar system of writing which was quite different from that of the Semitic races, by whom they were surrounded then or at a later date. From the nature of the existing records of the Kish dynasty it seems probable that they recount the deeds of the more prominent of the rulers of the Sumerians at this comparatively early period in their national existence. The records give lists of other rulers who flourished on or about the same time as the kings

of the Kish dynasty; but, so far, there seems to be no reason for supposing that they belonged to the dynasty itself, but rather that they were rulers of adjacent territory over which they held independent sovereignty. Probably further discoveries of records and the decipherment thereof may bring to light more definite and detailed information relative to the Kish rulers, those ancient Asiatic sovereigns who appear upon the sun-line of the horizon of semi-mythical history, behind which even the brightest tradition grows cloudy.

KISHINEV, kish'î-něf (Rumanian, CHIȘNĂU, kē-shē-nū'ōō), a city in Bessarabia which is now the capital of the Moldavian Soviet Socialist Republic of the USSR. It is on the Kodry plateau on the Byk River, a tributary of the Dniester. The city has an airline to Kiev, and is also on a railway from the Ukraine to Rumania.

Kishinev was founded in the 15th century as a monastery town, and captured by Russia from the Turks in 1812. Rumania seized it from Russia in 1918, when the Soviet government was involved in civil war. The USSR tolerated, but never recognized this seizure, and in 1940 retook the city from Rumania by force, along with all Bessarabia. Kishinev is famous in Russian history as a place where the great poet Pushkin was exiled. Industry is poorly developed, and consists mainly of food canning and winemaking. Great damage was done to the city during World War II, but in the postwar period Kishinev is being rebuilt, and its light industries are being expanded.

KISHON, kish'ōn, or **Qishon**, kî'shōn, river, Palestine. It rises on Mount Gilboa, and pursues a northwesterly course through the plain of Esdraelon, and empties into the Bay of Acre. Here Elijah slaughtered the priests of Baal (1 Kings 28:40), and Deborah and Barak defeated Sisera (Judges 5:21). The French and Turks fought a battle on its banks in 1799. Its length is approximately 50 miles.

KISS, kîs, **August**, German sculptor: b. near Pless, Oct. 11, 1802; d. Berlin, March 24, 1865. Educated for his profession in Berlin, he soon showed, after graduation, considerable originality which one of his teachers, Christian Daniel Rauch, had early discovered in him. His first notable work, *A Mounted Amazon Attacked by a Tiger*, was produced for Louis I of Bavaria (1842), in marble and afterward cast in bronze, for the portico of the Berlin Museum. Kiss made a very careful study of animals at rest and in action and was able to seize, in a notable manner, the striking features of animal life and to couple them with infinite and carefully wrought out details. These and other qualities, especially dramatic action and clever grouping, which distinguish all his work, are especially present in this, his first great effort, which is, by the general consensus of opinion, looked upon as the best expression of his ideals, his planning and his execution. Kiss made numerous statues, all executed on a high plane, some of them of notable persons and others of them developing some incident or scene. Among the most notable of his works are *Equestrian Statue of Frederick the Great*, *St. Michael Fighting the Dragon*, *St. George Slaying the Dragon*, and *Faith, Hope and Charity*.

KISS, kîsh, **Josef**, Hungarian Jewish poet: b. Temesvár, 1843; d. Budapest, Dec. 31, 1921. His name was originally Klein. His poems, which deal principally with Jewish life, legend and history, are often mingled with Magyar life, customs and traditions. His work is of two distinct kinds, religious and nonreligious. His general popularity, which grew from year to year, was acquired, for the most part, from his nonreligious writings, while he gained an added hold on the deeply religious Jews of Hungary through his religious poems. He wrote lyrical, narrative and descriptive poems and excellent ballads and hymns. His first volume of lyrics, though displaying considerable power, attracted little attention because the author had not as yet acquired the individuality of style and subject matter which afterward was to distinguish him from the other writers of Hungary. He owes his popularity more to his ballads than to any other of his literary efforts, because of their life and his individualistic manner of treatment of his subjects. He published a volume of *Poems* (1868); *Lyrics* (1878), and *Religious Poems* (1888). But between times he contributed to the local press and especially to the Jewish organs poems covering a wide range of subjects and a notable variety of treatment. In 1913, this date being the 70th anniversary of his birth, he was made honorary member of the Hungarian Society of Science and special festivities were held in his honor throughout the cities of Hungary.

KISS. See SALUTATION.

KISSIMMEE, city, Florida, seat of Osceola County, located on Lake Tohopekaliga, 18 miles south of Orlando. It is served by the Atlantic Coast Line Railroad, the Greyhound buslines, U.S. Highway 17-92, and U.S. Highway 441. Osceola is Florida's leading range cattle county, and Kissimmee is known as the "Cow Capital" of Florida. Cattle raising and citrus growing and shipping are the leading industries. Smaller occupations have to do with the manufacture of Fiberglas fishing rods, jellies, garden fence and tools, armature rewinding, and chicken processing. The Silver Spurs Rodeo, an annual affair, attracts thousands of people, and brings to Florida bronco busters, bull riders, and calf ropers from all sections of the country. Until 1951, when it was held February 25 and 26, it has always been held on July 4. The change in dates was made, it was said, to permit more people to see the show. The first whites are said to have located at Kissimmee in early 1881. Before that there had been a trading post for settlers farther south, but the place did not begin to flourish until after the Disston land purchase in 1881 when draining and dredging projects made possible the establishment of sugar cane plantations and sugar mills. There still stand in Kissimmee many large old frame houses with galleries and wide porches which were built and occupied by wealthy cattlemen more than half a century ago. The monument of states, built of stones from every state in the Union and several foreign countries, is an attraction. The Hart Memorial Library is an old building. Pop. (1950) 4,329.

KISSING BUG. See CONE-NOSE.

KISSINGEN, kîs'îng-ën, Bavaria, a celebrated watering place on the Saale, 62 miles ea-

Frankfurt by rail. It is surrounded by walls,anked with towers, and has a magnificent bathing establishment. The springs, celebrated from the 9th century, are five in number, and all saline, contain a large quantity of carbonic acid gas, are used both internally and as baths, and are considered efficacious in gout and affections of the stomach and chest. Pop. (1939) 9,517.

KISTNA, kīst'nā, also formerly **KRISHNA**, river, India, which separates the Deccan from southern India. It rises among the Western Ghats, 4,500 feet above sea level, in the State of Bombay, 42 miles from the Malabar Coast, passes through Hyderabad, where it receives the Krishna on its left, and the Tungabhadra on its right bank, both flowing, like it, from the Western Ghats. Previous to the junction it is commonly called the Krishna, a name which is frequently given to the whole river. The united river falls into the Bay of Bengal. Its course is estimated at 700 miles. A canal 90 miles long connects it with the Godavari River, and numerous channels make its waters available for irrigation purposes.

KIT, originally that which contained tools or necessities; hence the tools or necessities themselves. The term, which was probably derived from the Dutch "kit" or Middle Dutch "katie," a large bottle, beaker or decanter, has today various significations, among them a large bottle, wooden tub for milk, fish, butter and other household articles, a soldier's kit, a sailor's chest and contents and a shoemaker's kit; and is also used in the sense of the whole outfit, the whole amount, the whole company, as in the expression "the whole kit of them." Used in this way it is often employed in a deprecatory sense. As a military term kit generally signifies the more intimately related articles of a soldier such as shoes, boots, socks, shirts, undershirts, brushes, combs. The soldier's kit weighs from 50 pounds upward, the weight depending upon whether the soldier is under ordinary or heavy marching orders. The heavy marching outfit of the British infantry soldier is a knapsack containing shirts, extra uniform, boots, socks, brushes and a few other personal articles, mess tin, bread, rations for a certain time, generally of short duration, coat, cap, rifle, bayonet, ammunition and cartridge kit. This outfit, however, varies, according to the work for which a detachment of troops is destined for the moment.

KIT-CAT CLUB, a club formed in London about 1688, originally for convivial purposes, but which soon assumed a political character, arising in the reign of Queen Anne become the resort of Marlborough, Walpole, Addison, Steele and other leading Whigs. Its founder was Jacob Tonson, the eminent publisher, and its name was derived from that of Christopher Cat, who supplied the club with mutton-pies. It was originally composed of 39 members, later enlarged to 48. The portraits (about three-quarters length) of the members were painted by Sir Godfrey Kneller, and hence a portrait of this length is called a "kit-cat." The club was dissolved about 1720.

KIT FOX (*Vulpes macrotis* or *velox*), also called swift fox, a species found in western and northern regions of the United States and also in Canada, is the smallest of the North American

foxes, the combined length of head and body being only eighteen to twenty inches and the tail twelve. Its weight does not exceed five pounds. The somewhat variable color is usually buff to brownish gray, lighter below, and tends to change with the season. It constructs a burrow in which the young are born and reared, and hunts at night, preying chiefly on small rodents and birds. Kit fox fur has not much commercial value. See also FOX; CANIDAE; CARNIVORA.

KITCHEN CABINET, a popular name applied to certain intimate political friends of President Andrew Jackson, who were supposed to have more influence over his actions than his official advisers. They were Gen. Duff Green, editor of the *United States Telegraph* at Washington, the confidential organ of the administration; Maj. William B. Lewis, of Nashville, Tenn., second auditor of the treasury; Isaac Hill, editor of the *New Hampshire Patriot*, and Amos Kendall (q.v.) of Kentucky. Kendall was leader of the kitchen cabinet; worked for the Jackson "second choice" movement in Kentucky; and received the office of fourth auditor of the treasury. He was a man of exceeding ability, but of low moral perceptions, and, as a politician, was the incarnation of the worst evils of the American system. Harriet Martineau wrote of him, "I was fortunate enough once to catch a glimpse of the invisible Amos Kendall, one of the most remarkable men in America. He is supposed to be the moving spring of the whole administration."

KITCHEN MIDDENS, mounds of shells, bones, charcoal and refuse, remaining upon the site of prehistoric settlements along the coasts of seas, lakes and rivers in many parts of the world. The exploration of them has brought to light many relics of the Palaeolithic and Neolithic men who formed them, and contributed greatly to the knowledge of prehistoric archaeology. Extensive deposits of this kind occur in various parts of the United States, where they are known as shell-heaps.

KITCHENER, kīch'ē-nēr, **Horatio Herbert, 1st Earl Kitchener of Khartoum** and of Broome, British soldier: b. Croter House, Ballylongford, County Kerry, Ireland, June 24, 1850; drowned west of the Orkney Islands, Scotland, June 5, 1916. Though of Irish birth, he was of English descent, his father being Lieutenant Colonel H. H. Kitchener, of the 13th Dragoons. He was educated at the Royal Military Academy, Woolwich, and received his commission in the Royal Engineers on Jan. 4, 1871. Between the time of his entering the military academy and receiving his commission he had seen service in the Franco-Prussian War. He was at Dinan when war broke out, offered his services to the French authorities and served as a private in the Second Army of the Loire under the command of Gen. Antoine Chanzy. After three years of routine home duty he was loaned to the Palestine Exploration Fund in 1874 and commenced those eminent services for the British Empire in the East which would continue through most of the remainder of his life. In Palestine, working on topographical surveys, he acquired his first knowledge of the Arabs and Arabic. When Britain acquired Cyprus in 1878, he went there to survey the island. He was employed from 1882-1892 in assisting in

the reorganization of the Egyptian army, and in 1892 became sirdar or commander-in-chief. The next four years were spent in preparations for the reconquest of the Soudan, and in 1896 he began operations against the Khalifa, whose forces he defeated at Firket. The result of this engagement was the recovery of the province of Dongola. In 1898 he again defeated the Khalifa's forces at Atbara. Kitchener had learned well the lessons of warfare in Egypt and behind each advance constructed a railroad. On 2 September of that year the Khalifa's forces were utterly defeated at Omdurman and two days after the battle Kitchener entered Khartoum. For these services Kitchener was raised to the peerage as Baron Kitchener of Khartoum. A remarkable feature in the conquests was the economy with which the three campaigns from 1896-98 were conducted, the total cost exceeding little more than \$12,000,000.

Then occurred an episode that might have led to war between England and France, when a French officer, Colonel Marchand, with a small force of Senegalese soldiers, established themselves at Fashoda, on the White Nile, 600 miles above Khartoum on territory claimed for Egypt. Kitchener met the situation very tactfully; he visited Fashoda, permitted the tricolor to remain hoisted and arranged with Marchand that the disputed occupancy should be referred to the diplomatists of the two countries.

In 1899 Kitchener was summoned from Egypt to join Lord Roberts as chief of the staff when the latter took over the supreme command of the British forces during the Great Boer War. Here his untiring energy was devoted first to the work of organization. He was responsible for the decision to attack the Boers at Paardeberg and his tactical dispositions on that occasion were subjected at the time to severe criticism. In November 1900, after both of the Boer capitals had been occupied, and it appeared as if the object of the war had been attained, Lord Roberts handed over the command to Lord Kitchener and to him fell the difficult and arduous task of coping with the guerrilla methods thereafter adopted by the Boers, and to which the country was well adapted. He first made his railway communications safe and secured the important centres; then he brought the non-combatant population into concentration camps; and finally he established a vast system of protective block-houses hugging the railway lines, which were finally used as armed bases against which long lines of mounted men swept parties of the Boers. In the negotiations preceding the Treaty of Vereeniging in 1902, which ended the war, Kitchener took an active part, and he favored the granting of generous conditions of peace. As a mark of appreciation for his services he was raised a step in the peerage by being created a viscount, promoted to the rank of general and was awarded the Order of Merit.

Shortly after the conclusion of the Boer War he was appointed commander-in-chief in India, and this post he held till 1907, carrying through a number of important reforms in the organization of the Indian army. At the end of his term he was appointed commander-in-chief in the Mediterranean, but this appointment he subsequently declined. In leaving India he paid a visit to Japan and then proceeded to

Australia and New Zealand, where he drew up schemes for the defense of these dominions which were subsequently put in operation. In April 1910 he returned to England, when there ensued a brief respite from military duties and a relapse into civil life.

In 1911 Kitchener succeeded Sir Eldo Gorst as British Resident in Cairo. In this position he devoted himself to the suppression of the disloyal and anarchist agitation which had been gathering head during Sir Eldo Gorst's régime, and to the initiation and furtherance of measures for the economic development of the country. Largely owing to his exertions the value of the Egyptian cotton field has largely increased, roads were constructed and improved, public health safeguarded by adequate sanitary measures and the fellahen protected by legislation against the exactions of usurers.

The summer of 1914 found Kitchener in England in consultation with the imperial authorities. On 2 August he was boarding a steamship at Dover on his return to Egypt when, owing to the threatening situation in Europe, he was summoned back to London. On the 4th war was declared and on the following day he was appointed Secretary of State for War—an announcement that was hailed with enthusiastic approval in Great Britain. The task that fell to him then was one of unexampled difficulty. The British army for effective purposes was composed of a striking force of 160,000 men; he expanded it into an army of 5,000,000, in a country traditionally devoted to voluntary enlistment, and his prestige and personality were main factors in the striking results achieved under the voluntary system and in the acceptance by the nation with so little friction of the final resort to conscription. Certain it is, however, that he took on himself a burden that was too heavy for one man to bear. Following on a campaign of criticism in a section of the press the Ministry of Munitions was created and the powers of chief of the staff enlarged with a view to keeping the War Secretary to matters strictly within his own department. On 2 June 1916 he invited the members of the House of Commons, some of whom had attacked his conduct as War Minister, to a secret conference at the House, and there he is said to have emerged triumphantly from what must have been for him a trying and somewhat distasteful experience.

The termination of his career followed a few days thereafter with tragic and appalling suddenness. Accompanied by the members of his staff, he embarked on 5 June on the cruise *Hampshire* at an unknown port in the north of Scotland, with the intention of proceeding to Archangel, and thence to Petrograd to confer with the Russian government. The cruiser was accompanied by two destroyers, but owing to the heavy seas that were running these had to be detached. At eight o'clock in the evening an explosion occurred on board which was observed from the shore; for boats were seen to leave the vessel, but they were apparently swamped and the sole survivors of the wreck were 12 sailors who managed to reach shore on a raft. It was afterward officially stated that the *Hampshire* struck a mine. The news of the disaster

received with consternation and grief in all parts of the British Empire. Kitchener was followed as Minister of War by Mr. Lloyd George, and his elder brother, Lieut.-Col. Henry Elliott Chevallier Kitchener, succeeded to the title.

Kitchener in popular tradition was regarded as a stern, austere and somewhat unapproachable man; but his aloofness was due in the main to shyness, the conditions of his early service in Palestine, Cyprus and Egypt fostering a love of solitude that became a second nature with him. From the time of his Sudan campaigns he was regarded by the British public as an organizer of victory, one who never struck without making full and adequate preparation for the blow. This characteristic was fully revealed in his final task. When, at the outset of the great European conflict, a short war was generally anticipated, he had the courage and foresight to state the disagreeable truth and to make adequate preparations for a long war. No hope of temporary successes in the early stages of the conflict could divert him from his purpose, to ensure that, in what he conceived would be a war of exhaustion, the superiority in man power, munitions and equipment should in its later stages rest incontestably with the allied powers. Consult Begbie, H., 'Lord Kitchener' (London 1915); Burleigh, B., 'Twixt Sirdar and Khalifa' (London 1898); Doyle, Sir A. Conan, 'The Great Boer War' (London 1903); Moser, H. G., 'Lord Kitchener' (London 1914); Hackwood, F. W., 'Life of Lord Kitchener' (1913); Steevens, G. W., 'With Kitchener to Khartum' (1899-1914); Wheeler, F., 'Life of Lord Kitchener' (1914); 'The Boy's Life of Lord Kitchener' (1917); Ballard, R., 'Kitchener' (1930).

KITCHENER, Canada, city and county-seat of Waterloo County, Ontario, on the Canadian National Railway, 62 miles west of Toronto. It was originally settled by Pennsylvania Dutch, and later by Germans from Europe. Prior to the World War it was called Berlin. Industries include the manufacture of boots and shoes, rubber goods, foundry products, furniture, automobile tires, leather, buttons, skates, clocks, gloves, shirts and collars, and white wear. Kitchener has an excellent sewerage system, water-supply system, and street-railway system. There are also gas and electric light and power plants, seven banks, one daily newspaper, 12 schools and numerous churches. It is the seat of a Roman Catholic college. Pop. (1931) 30,793; (1939) 33,450.

KITE, a bird of prey associated with the buzzards in the sub-family *Buteoninae* of the family *Falconidae*, characterized by weak grasping-power in the feet, slender form, usually a forked tail, and long wings suited to the swift and graceful flight that distinguishes the group. These buoyant birds," says Evans, "are fond of perching but soar with ease, quartering the plains like harriers, or hovering with uplifted wings to dart down on their prey of insects, snakes, small mammals, and more rarely birds." They build their nests on trees, or in some cases on bushes and reeds in marshes; and their eggs are whitish, marked in various degrees of spotting. The cries of most kites are loud

and mournful, but some utter sharp, whistling notes. The Brahminy kite is exceedingly numerous in India and eastward, and is valued for its vermin-killing; and an Australian species, the whistling kite, is a powerful aid in suppressing insect-plagues. The red kite, or "gleed," of Europe eats almost every sort of small creature, and like some of the others does not disdain carrion. In the 16th century large flocks of gleeds dwelt in and about London, and were welcome as scavengers, as they are to-day in Cairo and other Oriental towns, but they have suffered almost total extermination in Britain, mainly because of their depredations on poultry, pheasants, etc. The gavinda, or Pariah kite, is the scavenger of Hindustan. Several species of these handsome hawks inhabit tropical America, one of which, the Everglade kite, comes to southern Florida, where it subsists exclusively on the snails (*Ampullaria*, etc.) that throng on the bushes in the mangrove swamps: hence it is locally known as snail-hawk. The swallow-tailed kite, black with purple and blue reflections, is commonly seen in the southern United States, and is pre-eminently a bird of the air. "It captures its prey, devours it, and drinks, while under way. Its flight possesses all the marvelous ease and grace of a swallow's." The white-tailed is a species of Texas and southward, haunting marshes rather than uplands. The Mississippi kite, however, wanders in summer all over the southerly interior, where it is generally known as the blue kite. All these are migratory. Consult Newton, 'Dictionary of Birds' (London 1896); Evans, 'Birds' (New York 1900); and American ornithologies, especially Bendire, 'Life Histories of North American Birds' (Vol. I, Washington 1892).

KITE, a common aerial toy in the form of two crossed sticks covered with paper and balanced with a tail or string, on which are tied bits of cloth or paper. Kites were first employed in aid of science in 1749 by Dr. Alexander Wilson and Thomas Mellville of Scotland, who by means of a thermometer attached to a kite were able to take temperatures above the earth's surface. Franklin's experiments with electricity by means of a kite and key are familiar to everyone. Among the men who have given much thought and labor to improve kite making are W. A. Eddy, S. P. Langley, Octave Chanute, Lawrence Hargrave, J. B. Millet, J. W. Davis, C. F. Lamson, H. D. Wise, Captain Baden-Powell, Professor Marvin, C. F. Moore and others. The first improvement was to make a tailless kite, and this was perfected by Mr. Eddy.

In 1895 Captain Baden-Powell of England, weighing 150 pounds, was enabled to hoist himself 100 feet in the air by a tandem of five kites. Mr. Hargrave, with three kites, raised a total weight of 208 pounds to the height of 16 feet, as far as he cared to go. Lieutenant Wise, in 1897, with four kites, rose to 42 feet, the entire weight raised being 229 pounds. Mr. Eddy has done much to develop tandem kite flying. In 1897 he made a tandem of nine Eddy-Malay kites on a cord two miles long, with an elevation of 5,595 feet, the same being kept up for 15 hours. At Blue Hill Observatory, near Boston, this height was exceeded, by the tandem of seven Malay and two Hargrave

kites, with an area of 170 feet, rising 8,740 feet above Blue Hill, or 9,375 feet above sea-level. It took three miles of piano-wire and the work of three men for 12 hours to accomplish this feat. Piano wire has been found preferable to cord, having greater tensile strength and presenting less surface to the wind.

In the United States Weather Bureau para-kites are used for the purpose of recording the velocity of the wind and the humidity and temperature at high altitudes, by the meteorograph. These can be obtained at a single observation and several hours before the effects are known in the lower atmosphere. Photographs have been taken by means of a camera fastened on the frame of a kite and operated by a cord, and Mr. Eddy had an arrangement of eight cameras strapped together in which all the shutters can be opened at once, and by this means a complete view of the horizon can be taken. Inventors of flying and soaring machines have made extensive use of kites in planning the construction of their various contrivances. Since 1905 meteorological observations by kites have been carried on continuously by the Weather Bureau at Mount Weather, Va. The instruments were raised to 23,835 feet on May 5, 1910 when 10 kites and 8½ miles of wire were used.

The first permanent station for kite flying in Europe, and the first in the world established under governmental auspices, is that at Viborg, in the extreme northern part of Denmark, the governments of Denmark, Sweden and France cooperating in the scheme. The most important building at the station is a tower 33 feet high, mounted on circular rails, so that it can be rotated easily and left open on one side. No matter from which direction the winds blows the tower is turned with this gap to leeward. Thus the operator can sit within, where the windlasses are, and watch his kites. The latter, of course, naturally take their lines down the wind. There are two windlasses, controlled by electric motors, one being held in reserve for immediate use in case the wire on the other breaks while in service. Kites have also been used to throw lines across streams or chasms or to bring life-lines to stranded ships.

Consult *Proceedings of the International Conference on Aërial Navigation* (Chicago 1893); Marvin, C. F., *Mechanics of the Kite; Instructions for Aërial Observations; Investigation of the Sluggishness of the Meteorograph*; and other bulletins of the Weather Bureau (Washington 1898 et seq.); L. Teisserenc de Bort, "Études sur la température et ses variations," in the *Annals of the Central Meteorological Bureau* (Paris 1897); "Sur l'organisation des sondages aériennes," in the *Memoirs of the International Congress for Meteorology* (Paris 1900); Rotch, A. L., *Use of Kites to Obtain Meteorological Observations* (Boston 1900); Assmann and Berson, *Ergebnisse der Arbeiten am aeronautischen Observatorium in den Jahren 1900 und 1901* (Berlin 1902); *Arbeiten des königliche preussischen aeronautischen Observatoriums* (Lindenberg 1904-1913), and paper by Millet, J. B., in the *Aéronautical Annual* for 1896.

KITSON, Henry Hudson, American sculptor: b. Huddersfield, England, April 9, 1863; d. Tyringham, Mass., June 26, 1947. At Paris he studied at the École des Beaux Arts under Bonnaissieux. He was awarded three gold medals by the Massachusetts Charitable Mechanics' Asso-

ciation, a gold medal of honor by the American Art Association of New York. He received a medal at the Universal Exposition, Paris, 1889, as well as that in 1900. He also received the order of Bene Merenti from the king of Rumania. His more important works are *The Music of the Sea*, in the Boston Museum; the Major Doyle monument, Providence, R. I.; the statue of General Lee at Vicksburg, Miss.; *The Minute Man*, at Lexington, Mass.; the Hayes Memorial Fountain at Providence; the W. H. Hunt Memorial, Boston, and the statue of Roger Conant, Salem, Mass.

KITSON, Theo Alice Ruggles, American sculptor: b. Brookline, Mass., 1871, d. Boston, Mass., Oct. 29, 1932. Her maiden name was Ruggles. Educated in art in Boston and Paris, she married her most distinguished teacher in the former city, Henry Hudson Kitson (q.v.). From her earliest student days she showed peculiar talent for her work as a sculptor; and in Paris, under the instruction of Dagnan-Bouveret, she especially distinguished herself, and was the first American woman to receive honors in sculpture at the Paris Salon. In Paris her work is held in high regard for its simplicity, force and directness coupled with its strength of vision and beauty and precision of execution. Her sculptures have been on exhibition in almost every great exposition in the United States and in numerous art clubs.

Among her notable works are *Woods of Michigan* (two bronze figures at the Chicago Exposition); *Statue of Volunteer for Soldiers' Monument* (Newburyport, Mass.); *Soldiers' Monument* (Ashburnham, Mass.); *Massachusetts State Monument* (National Military Park, Vicksburg); *Portrait Medallions of Dodge, Elihu, Howard, Logan, Ransome, Grierson and other Generals for the Sherman Monument* (Washington); *Statue of Minute Man* (Farmington, Mass.); *Soldiers' Monument* (Walden, N. Y.); *Mother* (Bickerdyke group); *Students' Monument*; *Equestrian Statue of Victory* (Hingham 1929); *Soldiers' Monument* (Pasadena, Cal.). Her work also includes a long list of similar monuments, a list which grew in length and importance from year to year.

KITTANNING, borough, Pennsylvania, and Armstrong County seat; altitude 807 feet, on the east bank of the Allegheny River; 46 miles northeast of Pittsburgh and 76 miles south of Oil City; on the Pennsylvania, and the Pittsburgh, Shawmut and Northern railroads. Bituminous coal, oil, gas, iron, limestone and fire-clays are important mineral resources of the region. Plate glass is made here and at Ford City, three miles south of Kittanning. Clay products, tile, face and brick, refractories, pottery, and foundry products, are distinctive in Kittanning. The name, meaning "place of the great river," was that of an unusually large Indian town, ruled by Chief Jacob. In 1756 Col. John Armstrong (q.v.) killed the chief and many of his braves and destroyed their town, releasing several white captives. Permanent settlement was made by Germans and Scotch-Irish after 1796, although earlier settlement been attempted in 1791. Pop (1950) 7,750.

KITTATINNY MOUNTAINS, kit-à-tin' a range which extends from Ulster County, N. Y., south and southwest, through the north

stern part of New Jersey and into Pennsylvania. The names by which the range is generally known are in New York, the Shawangunk, New Jersey, the Kittatinny and in Pennsylvania the Blue Mountains. The range varies in height from 500 to 2,000 feet. The mountains belong to the Appalachians, and form the eastern edge of the main part of the system.

KITTATINNY PENEPLAIN. See PENEPLAIN.

KITTERY, kit'ēr-i, town, Maine, in York County; altitude 50 feet; on the Piscataqua River, opposite Portsmouth, N. H.; on the Boston and Maine Railroad. The Portsmouth Navy Yard, established 1806, occupies islands in the river.

The town, one of the oldest in New England, was settled in 1624 and incorporated as Piscataqua Plantation in 1647. It was the birthplace of Sir William Pepperell, who built the Sparhawk House (1742) and the Lady Pepperell House (1765). Fort McClary, at Kittery Point, dates from 1690. The *Ranger*, commanded by John Paul Jones, was built in Kittery shipyards in 1777. The *Kearsarge*, of Civil War fame, was also built here. Pop. (1940) 5,374; (1950) 8,088.

KITTIM, or **CHITTIM**, kit'im, a term of biblical origin for the inhabitants of the island of Cyprus, derived from the important town of Kitium or Citium, the modern Larnaca. The "isles of Kittim" are mentioned in Jeremiah 2:10, and Ezekiel 27:6. It is also the name of the third son of Javan and the brother of Elisha, Tarshish and Dodanim (Gen. 10:4).

KITTO, kit'ō, John, English Bible student: b. Plymouth, England, Dec. 4, 1804; d. Cannstadt, Stuttgart, Germany, Nov. 25, 1854. He was son of a mason at Plymouth, and after obtaining a very scanty education began to assist his father, but met with a fall which deprived him of sense of hearing. Sent to the workhouse he was presently apprenticed to a shoemaker, who treated him so cruelly that the magistrates cancelled his indentures. He therefore returned to the workhouse, where some philanthropic gentlemen became interested in him, made provision for his support and procured for him permission to read in the public library. In 1824 he became the pupil of Mr. Groves, a dentist of Exeter, who supported him and gave him a small salary for his services. In 1825 he was sent to the Missionary College at Islington for the purpose of receiving training as printer for the foreign press of the Church Missionary Society. Shortly afterward he was sent abroad by the society, but returned two years later.

In 1829 Mr. Groves organized a private missionary party which set sail for the Persian court, where from 1829-1833 Kitto acquired that familiar acquaintance with the East which he afterward employed in his writing. He had opened a school for Armenians at Baghdad, which he was forced to abandon because of the ravages of disease and floods in the neighborhood.

He founded and edited the *Journal of Sacred Literature* (1848-1853), and although a layman of the English Church received in 1844 the degree of D.D. from Giessen.

He published *The Pictorial Bible* (1835-38); *Pictorial History of Palestine* (1841); *Gallery of Scripture Engravings* (1841-1843);

Cyclopaedia of Biblical Literature (edited 1843-1845); *The Lost Senses: Deafness and Blindness* (1845); *Physical Geography of the Holy Land* (1848); *Daily Bible Illustrations: Morning Readings* (1849-1851); *Evening Readings*; and many other similar works. In his latter years he enjoyed a pension of £100 a year from the crown.

KITTON, kit'ūn, Frederic George, English author and artist: b. Norwich, May 5, 1856; d. Sept. 10, 1904. After receiving his education at a private school in Norwich, he was put under the training of W. L. Thomas, managing director of the London *Graphic*, and became an expert draftsman and wood engraver. In 1882 he added literature to his profession of book illustration.

Among his delightful appreciations of artists, illustrators and authors of his time may be mentioned *Phiz* (*Hablot Knight Browne*), a memoir (1882); *John Leech, Artist and Humorist* (1883); *Charles Dickens by Pen and Pencil* (1890); *Dickens and his Illustrators* (1898); *Charles Dickens, his Life, Writings and Personality* (1902).

KITTREDGE, kit'rij, George Lyman, American educator and author: b. Boston, Mass., Feb. 28, 1860; d. Barnstable, Mass., July 23, 1941. He was graduated in 1882 from Harvard, where he was successively instructor, assistant professor, and professor of English, 1888 to 1936. He devoted much study to English philology and literature.

He edited the *Albion Series of Anglo-Saxon and Middle English Poetry*, with J. W. Bright, 5 vols. (1900-1907); and *Complete Works of Shakespeare* (1936). His published works include *The Mother Tongue*, with Sarah Louise Arnold (1900); *Words and their Ways in English Speech*, with James B. Greenough (1901); *Old Farmer and his Almanac* (1905); *Essays on Chaucer* (1914); *Chaucer and His Poetry* (1915); *Witchcraft in Old and New England* (1929).

KITTS, Saint. See SAINT CHRISTOPHER.

KITTY HAWK, kit'i hòk', village, North Carolina, in Dare County, on a sand barrier between the Atlantic Ocean and Kitty Hawk Bay (the east end of Albermarle Sound), 32 miles southeast of Elizabeth City. Nearby is Kill Devil Hill where the Wright brothers performed their experiments and made the first sustained airplane flight in the United States in 1903. The Kill Devil Hill is now a national memorial. Pop. (1950) c.250.

KIUKIANG, ji-ōōjī-äng', city and treaty port, in the province of Kiangsi, China. The name means, in Chinese, "Nine Rivers," and the city, which is the official head of the province, is situated on the Yangtze, a short distance above the entrance to Lake Poyang. The city which, like most Chinese cities, is walled, is, within this rampart, about five miles in circumference; but the modern town has outgrown the wall and a number of important suburbs lie beyond it.

Kiukiang is connected by rail to Nanchang. The small foreign colony in 1940 included missionaries heading a few churches and schools. The mountain resort of Kuling is situated 13 miles south of Kiukiang. The town exports products gathered in from the surrounding neighborhood, but the range of its industrial and com-

mercial activities does not extend far inland. The exports consist, for the most part, of rice, tea, paper, tobacco, chinaware, hemp and other agricultural products in a lesser degree, and grass-cloth; while the greater percentage of the imports consists of cotton and woolen goods, metals, provisions and leather articles. In the past a great deal of opium was sold in the city and shipped to interior points in China. Pop. about 40,000.

KIUSHU, kyoo'shoo', or **KYUSHU**, Japan, one of five large islands of the empire; area, 16,840 square miles. It contains nine provinces but for administrative purposes is divided into seven *Ken* or prefectures. The island is mountainous and volcanic. The principal harbor is the treaty port, Nagasaki, but in 1889 five special ports of export were opened. Pop. 7,727,000.

KIVA, the sacred ceremonial chamber of the Pueblo Indians. The name is Hopi and the institution is to be found in every Hopi and other village throughout the Pueblo country. The kiva, which was generally known to the first Spanish visitors and explorers in the Pueblo territory, as *estufa* (stove or furnace) is so old an institution that its origin is lost in tradition. At one time its use was much more extensive than at present, or even within historical times, as is evidenced by the remains of kivas in the ruins of prehistoric villages in Arizona, Colorado, Utah and New Mexico. It was probably also in use at one time in parts of Mexico. Some kivas were quite large; and some of those in use in prehistoric times seem to have been larger than those existing at the present time, if we are to judge from existing remains. Castañeda, writing in 1540, tells of one which had "twelve pillars, four of which, in the centre, were each as large as two men could reach around." He is also the authority for the statement that some of the kivas that he had seen "were large enough for a game of ball." The early Spanish missionaries and other visitors to the land of the Pueblos gave the name *estufa* to the kiva because they mistook it for a sweat house, losing complete sight of its sacred character and the part it had long played in the past (and still plays) in the religious life of the Pueblos. Four hundred years ago the kivas of the Rio Grande country were much the same as they are now. They were large underground, or semi-underground, square or round structures, the roofs of which were supported by handsome pillars. About the time of the discovery of America, and for some time afterward, the young unmarried men of marriageable age lived in the kiva, and with them also lived widowers or men who had repudiated their wives. Women were forbidden, under dire penalties, to sleep in the kivas, which they could visit only to bring to their relatives food and other prime necessities. This restriction upon the visit of women is still in force in all the Pueblo villages. Women, however, are permitted to visit the kivas on the occasion of certain public festivals or other ceremonies of a religious or other tribal nature. There are also, in the Pueblo villages, though much more rarely, kivas for women. These latter may not be visited by men except under certain prescribed conditions similar to those

already indicated. These kivas of the women are also the club houses of secret religious ceremonies of a peculiarly sacred nature. The kivas were and still are the common property of the village and never belonged to one individual or set of individuals notwithstanding the fact that they are the home of secret societies. In some villages the kivas are rectangular, in others square, and in still others, circular. They were originally built in the courtyard of the village; but they are to-day usually hidden among the houses; and they are still partially or altogether under ground. One Pueblo may have from one to a dozen kivas, according to its population, wealth and interests. Even those kivas that have the walls partly above the ground have few or no openings at all in the walls, and where the openings exist, they are invariably very small, the entrance to the buildings themselves being invariably from the flat roof, which is reached by means of a ladder that can be drawn up. A second ladder connects the inside of the kiva with the roof, through a trap-door. The roof, which is very strong and thick, is generally made of well tramped earth or adobe bricks overlying beams or rushes, which are supported by the pillars already mentioned. The trap-door which is placed in the centre of the roof, also serves as a hole to permit the escape of the smoke from the fireplace of the kiva which almost invariably occupies the centre of the edifice, and consists of a shallow fire pit. The kiva floor is usually covered with smooth sandstone slabs; and around three sides of the walls run stone benches supported by adobe brick-work. Against the fourth wall is a low ceremonial platform and a ceremonial altar. Many of the kivas have the walls, or parts thereof covered with hieroglyphic paintings, symbolic in nature, and serving to remind the mask ceremonies of the main incidents in the ceremonies to be performed on certain stated occasions.

KIWANIS INTERNATIONAL, an organization of approximately 2,076 men's clubs meeting at weekly luncheons, each club having not more than two of a community's leaders in business or profession. Kiwanis Clubs render constructive service in such fields as aid to underprivileged children, work with boys and girls (as vocational guidance), and the support of law enforcement, public safety, and good citizenship. The organization's motto is "Build." The first Kiwanis Club received its charter at Detroit, Mich., 21 Jan. 1915; its name was derived from an Indian word «Kee-wanis» — «to make one's self known.» Early in 1917 Kiwanis Clubs were chartered in Canada, and at the annual convention in 1924 the official name «Kiwanis International» was adopted. Membership is about 110,000 (1940). *The Kiwanis Magazine* (a monthly) is published from national headquarters, 520 North Michigan Avenue, Chicago, Ill.

KIWI-KIWI, kē'wī-kē'wī. See **APTER**.
KIZIL-IRMAK, kiz'il-ir-māk' (the Turkish for Red River), a river known to the ancients as the Halys, the principal river of Asia Minor. Rising in the east of the peninsula, flows in a circuitous route for over 500 miles and enters the Black Sea near Sinope.

KJERULF, kš'rólf, **Halfdan**, Norwegian musical composer: b. Componist, Sept. 15, 1815; Christianity, Aug. 11, 1868. He began the study of theology; but his musical inclination was so strong and he finally gave up his theological studies and went to Leipzig to study music. He displayed a strong lyrical talent and a facility for the writing of popular songs much above the average of compositions of this class. His songs were sung in public by some of the greatest stage favorites of his day, among them Jenny Lind, Christine Nilsson, and Henriette Sontag, all singers of worldwide reputation, who made the compositions of Kjerulf almost as popular and well known as themselves. He also composed much excellent piano music. All his work shows melodic gifts and power of thought presentation. His great popularity and his real musical gifts enabled him to exercise a noteworthy influence upon the national music of his native land and to create a school of his own, of which the most brilliant pupil was Edvard Grieg.

KLADNO, klád'nō, city, Czechoslovakia, located in Bohemia, 15 miles west of Prague (Praha). It is located in the midst of a rich coal and iron ore area, and contains numerous iron and steel foundries. Pop. (1947) 40,692.

KLAGENFURT, klä'g'en-föört, city, Austria, capital of the province of Carinthia, on the Glan River 62 miles southwest of Graz. In the cathedral, built in the 16th century, is the stone on which the dukes of Carinthia sat to receive the homage of their vassals. This stone has many legends attached to it; it seems to have been originally connected with the ancient pre-Christian religious beliefs of the people of the country. The principal industries of the city are the manufacture of leather, tobacco, cloth, machinery, white lead, chemicals, shoes, and soap. Klagenfurt was the capital of the duchy of Carinthia in 880. For about 150 years after 1122 the duchy belonged to the counts of Lavant; it became part of Austria in 1335. After World War I Yugoslavia claimed the district, and by the Treaty of Saint Germain (1919) a plebiscite was held in 1920 to determine its future. On October 1, 1920, the southern zone gave a majority for Austria. This victory rendered a plebiscite in the northern zone unnecessary, and the whole district went to Austria. Pop. (1948) 65,950.

KLAIPEDA. See MEMEL.

KLAMATH, klām'āth, a name applied to several tribes of American Indians formerly living along the Klamath River in Oregon and California, but now settled on a reservation at Klamath Lake. Their present lands were given them by treaty in 1864, the reservation containing 360 square miles. The Klamaths, who now number about 700, are fairly civilized and are expert stock-raisers.

KLAMATH, lakes, Oregon, two considerable bodies of water connected by a narrow strait. Upper Klamath Lake, in southwest Klamath County, and Lower Klamath Lake (now dry, and extending into Siskiyou County, Calif.) have a combined length of about 44 miles and a maximum width of 14 miles.

KLAMATH, river, in southern Oregon and

northwest California, rises in Lake Ewauna, in Klamath County, Oreg., and flows in a southwesterly direction across the northwest extremity of California to enter the Pacific Ocean. The length is 250 miles.

KLAMATH FALLS, city, Oregon, Klamath County seat, at the southern end of Upper Klamath Lake 15 miles north of the California boundary; it is served by the Southern Pacific, the Great Northern, and the Oregon, California and Eastern railroads. Federal irrigation and power projects utilizing the storage capacity of Upper Klamath Lake have led to agricultural development in the rich Klamath Basin surrounding Klamath Falls. Potatoes, alfalfa, and grain are cultivated, and the city contains lumber mills and meat-packing plants. Settlement was made in this region in the early 1860's around a site called Linkville. Municipal government in Klamath Falls is vested in a mayor and council. Klamath Indian Reservation and the Klamath Wild Life Reservation are in the neighborhood. Klamath Falls is also a popular tourist resort. Pop. (1940) 16,497; (1950) 15,875.

KLANG, kläng, town, Federation of Malaya, located in the state of Selangor, on the Klang River 5 miles from its mouth, it is served by the branch railway line between Kuala Lumpur and Port Swettenham. Coffee estates in the vicinity have given place to large rubber plantations. Klang was, in 1901, the first town in the Malay Peninsula to be thoroughly drained, successfully testing the theory that the incidence of malaria could thereby be greatly reduced. Pop. (1947) 33,506.

KLAPKA, klöp'kő, **György**, Hungarian revolutionary soldier: b. Temesvár (Timișoara), April 7, 1820; d. Budapest, May 17, 1892. He rose to high rank in the Austrian Army, but with outbreak of the Hungarian national rising in 1848 he joined his countrymen. As a staff officer and then as general he did brilliant work. He fought at the Battle of Kápolna and elsewhere in 1849, and distinguished himself especially by his defense of Komárno. Compelled to capitulate before the year was out, he traveled abroad and then settled in Switzerland. He cooperated with Lajos Kossuth (q.v.) in organizing a Hungarian legion in Italy during the Austro-Sardinian War of 1859; and as a Prussian major general in the war of 1866 he organized a Hungarian corps in Silesia. Following the amnesty in 1867 he was permitted to return to Hungary, where he was elected to the Diet.

KLAPROTH, klāp'rōt, **Martin Heinrich**, German chemist: b. Wernigerode, Dec. 1, 1743; d. Berlin, Jan. 1, 1817. His analyses of minerals were carried to a perfection and exactness never before obtained. He discovered the elements uranium, titanium, and zirconium. From 1810 he was professor of chemistry at the University of Berlin. His son, HEINRICH JULIUS KLAUROTH (1783-1835), was a noted Orientalist and Asiatic traveler.

KLATOVY, klát'vī, or **KLATTAU**, klāt'-ou, town, Czechoslovakia, 70 miles southwest of Prague (Praha). It has a fine 13th-century church. The neighborhood is noted as a rose-growing region. Pop. (1930) 14,088.

KLAUBER, kló'bér, **Adolph**, American theatrical producer: b. Louisville, Ky., April 29, 1879; d. there, Dec. 7, 1933. He studied at the University of Virginia during 1896-98, and in 1900, after brief experience of acting with the Empire Theatre Company, he entered journalism, becoming a reporter for the New York *Commercial Advertiser*. In 1901 he joined the reportorial staff of the New York *Tribune*, and three years later he became Sunday editor of the New York *Times*. He was made dramatic critic of the latter newspaper in 1906, a position he continued to fill for the next 12 years. Going into theatrical production, in 1920 he presented *Emperor Jones*, the popular play by Eugene (Gladstone) O'Neill (q.v.). In 1908 he married Jane Cowl (b. 1884), the successful young actress, and he starred her in many leading plays, including *Lilac Time*, *Smilin' Through*, *Romeo and Juliet*, *Pelleas and Melisande*, and *Antony and Cleopatra*.

KLAUSENBURG, former name of Cluj (q.v.).

KLAUSTHAL. See CLAUSTHAL.

KLAW, kló, **Marc**, American theatrical manager: b. Paducah, Ky., May 29, 1858; d. Bracken Fell, England, June 14, 1936. He graduated in law, and was admitted to the bar, but after 1881 engaged in theatrical management. With Abraham Lincoln Erlanger (1860-1930) he formed in 1896 the Klaw and Erlanger theatrical syndicate, which had a most successful career for many years. He secured control of many important theaters throughout the United States, and he introduced numerous novel features into stage life. During the First World War he headed the entertainment services in military training camps.

KLEBER, klá'bár, **Jean Baptiste**, French general: b. Strasbourg, March 9, 1753; d. Cairo, Egypt, June 14, 1800. He first studied architecture in Paris, then entered the military school at Munich; and having joined the Revolutionary army, in 1793 he was appointed brigadier general and sent to La Vendée. He distinguished himself at Fleurus and the siege of Mainz (1794-95); commanded the army of the Rhine and Moselle (1795); defeated the Prince of Würtemberg; took Maestricht and Frankfurt; and subsequently defeated Prince Charles. Under the Directory he had command of the French armies. Bonaparte, in 1798, entrusted the command of the army in Egypt to Kléber; deeming resistance useless, in 1799 he concluded the convention of El Arish with the British, by which the French were to be conveyed home with arms and baggage. This being repudiated by the British admiral, Viscount Keith (q.v.), Kléber determined upon the resubjugation of the country, in which he successfully engaged when he was assassinated by a fanatic. A monument to him was erected at Strasbourg.

KLEBS, klaps, **Edwin**, German pathologist: b. Königsberg, Feb. 6, 1834; d. Berne, Switzerland, Oct. 23, 1913. In 1861 he became assistant to Rudolf Virchow (q.v.) at the Berlin Pathological Institute. He resigned this post in 1866 to take the professorship of pathological anatomy at Berne University, and he was appointed to like chairs at Würzburg in 1871 and Prague in 1873. In 1882 he went to the University of

Zurich as professor of pathology; there, the following year, he was the first to describe the bacillus which caused diphtheria; after it had been isolated by Friedrich August Johanne Loeffler (q.v.), it was known as the Klebs-Loeffler bacillus. He assumed charge of a bacteriological laboratory at Asheville, N.C., in 1895 and the following year he was appointed professor of pathology at Rush Medical College, Chicago, Ill., where he stayed for a brief period. Besides the work on the diphtheria bacillus, he did important research on the bacteriology of anthrax, gunshot wounds, malaria, syphilis, and tuberculosis.

KLEIN, klin, **Charles**, Anglo-American dramatist: b. London, England, Jan. 7, 1867; d. May 7, 1915. Educated at North London College, he emigrated to New York City in 1883 shortly after graduation, and there he became play censor for Charles Frohman (q.v.), a position that gave him immediate and helpful contact with the theater. His constant exercise of judgment on plays presented to Frohman gave Klein a deep sense of the prime requisites of a good play. He frequently helped to fix up and to recast the plays presented; and from this it was only a step to the production of plays on his own account. His dramatic works showed considerable power and no lack of original situations, and some of them proved notable successes, among the latter being *The Auctioneer*, *The Music Master*, and *The Lion and the Mouse*. Among his other dramas were *The District Attorney*, *The Third Degree*, and *The Money-makers*.

KLEIN, Felix, German mathematician: b. Düsseldorf, April 25, 1849; d. Göttingen, June 22, 1925. Educated at Bonn, he became assistant in the physical institute in 1866, and was appointed lecturer at Göttingen in 1871 and professor at Erlangen in 1872; he held chairs from 1875 in the Technical High School of Munich, from 1880 at Leipzig, and from 1886 at Göttingen. In 1893 he represented Göttingen at the World's Columbian Exposition at Chicago. He exercised large influence on American mathematics, having taught many instructors in institutions in the United States. In 1875 he became one of the editors of the *Mathematischen Annalen*, and in 1898 of the *Encyclopädie der mathematischen Wissenschaften*. In 1897 he collaborated with Fricke in the publication of *Vorlesungen über die Theorie der automorphen Funktionen*. His other important works included *Vorlesungen über das Ikosaeder und die Auflösung der Gleichungen vom fünften Grad* (1884); *Ueber lineare Differentialgleichungen der 2. Ordnung* (1894); *Theorie des Kreisels*, 2 vols. (1897-98); *Vorlesungen über die Theorie der elliptischen Modulfunktionen* (1890-1912); *Vorträge über ausgewählte Fragen der Elementargeometrie* (1895). English translations of some of his works were entitled: *Famous Problems of Elementary Geometry*; *Erlangen Program: Mathematical Theory of the Top*; *Lectures on the Isocahedron*. His *Vorlesungen über die Entwicklung der Mathematik in 19 Jahrhundert* was published posthumously (1926-27).

KLEIN, Félix, French clergyman and writer: b. Château-Chinon, department of Nièvre, July 12, 1862. Educated at the seminary of Meaux and Saint Sulpice, the Institut Catho-

de Paris and the Sorbonne, he became professor of philosophy at the École Saint Etienne at Caen in 1890 and in 1893 was appointed professor of French literature at the Institut Catholique.

A tolerant, broadminded ecclesiastic of democratic sentiments, his preface to a French translation of a life of Father Isaac Thomas Eckker (q.v.) in 1897 laid him open to the charge "Americanism." The papal interdiction of that year in 1899 led the abbé to retract and withdraw the book. In 1904 he visited the United States and Canada. He was received by President Theodore Roosevelt, and later published a record of his travels entitled *Au pays de la vie intense in the Land of the Strenuous Life*, (1905) and dedicated to Mr. Roosevelt. In 1907 he made a lecture tour through the United States that furnished materials for *America of Tomorrow* (1910). During World War I the Abbé Klein was attached as chaplain to the American War Hospital in Paris. In this capacity he kept a diary published in 1915 as *Diary of a French Army Chaplain*. It is a simple, profoundly moving account of what war means to the wounded combatants.

KLEIST, klist, **Ewald Christian von**, German lyric poet: b. Zebelin, near Köslin, Germany (now Koszalin, Poland), March 7, 1715; d. Frankfurt on the Oder, Aug. 24, 1759. His early lyrics were of anacreontic type. His most famous work is the fragment *Der Frühling* (1749), a nature poem. He also wrote *Gedichte* (1756), *Ode an die russische Armee* (1757), *Cissides und Paches*, a short epic poem, (1759), and other odes, lyrics, and hymns.

KLEIST, (Bernd) **Heinrich (Wilhelm) von**, German dramatist and novelist: b. Frankfurt (near Berlin), Oct. 18, 1777; d. Wannsee (near Potsdam), Nov. 21, 1811. Scion of a distinguished military family, Kleist served seven years in the Russian army, abandoning it to devote himself to study. Kantian philosophy convinced him of the unreliability of knowledge, vitiated his rationalistic *Weltanschauung*, and liberated his poetic potentialities. His first play, *Die Familie Schrotenstein* (1803), is a tragedy of errors and ill-tarred love. His Rousseauistic plan of "simple life" in Switzerland frustrated by political developments, he returned to Germany, where Christoph Martin Wieland befriended him and greatly admired *Robert Guiskard*, a grandiose attempt at a new and superlative dramatic style at which Kleist labored heroically but which remained a magnificent torso.

While in Prussian civil service at Königsberg (1805-1807), Kleist completed *Amphitryon*, grafting a metaphysical tragedy upon Molière's comedy, and *Der zerbrochene Krug*, one of the greatest of German comedies. *Penthesilea*, the tragedy of the mythical Amazon queen, personifies the splendor and agony of the poet's own soul; it is the most brilliant and daring of his dramas.

Returning to Berlin, then in French hands, Kleist was taken for a spy and imprisoned for six months in France. Released, he settled in Dresden (1807-1809), publishing there an admirable but shortlived literary periodical, *Phöbus* (1808), commenting *Michael Kohlhaas*, perhaps the greatest of German "Novellen," and writing other tales of great originality and realistic power. In the medieval-chivalric *Das Käthchen von Heilbronn* produced his most Romantic and popular play.

Deeply aroused by Napoleon's subjugation of Germany, Kleist wrote *Die Hermannsschlacht*, using the parallel of the Battle of the Teutoburg Forest (A.D. 9) to dramatize the humiliating conditions of his own time and inflame his countrymen with his passionate hatred of the French invader. The same purpose inspired his projected weekly *Germania* and other writings of this period. But it proved impossible to launch *Germania* or produce *Die Hermannsschlacht*, and the patriot was condemned to silence.

After a physical breakdown such as accompanied other crises of his harassed life, Kleist reappeared in Berlin, where he wrote his last and finest play, *Prinz Friedrich von Homburg* (1810), the greatest manifesto of Prussian patriotism and moreover a work of supreme dramatic excellence and human import. In 1810-1811 Kleist published the *Berliner Abendblätter*, Berlin's earliest daily newspaper; brilliantly successful at first, it was throttled by governmental censorship. Despairing of his country's plight and his own ineffectiveness (of his plays, only three had been performed, none with success; indeed, in Weimar, *Der zerbrochene Krug*, chiefly through Goethe's fault, experienced a scandalous fiasco), disowned by his family and reduced to poverty, Kleist shot himself. Ten years afterward, Kleist's posthumous works were published, and the ardent *Hermannsschlacht* and *Homburg* first came to light.

Isolated and frustrated during his lifetime, Kleist was not recognized in his true greatness until practically a century after his death. Today, many rank him above Schiller as Germany's greatest dramatist. While sharing traits with both German Classicism and Romanticism, Kleist's work in drama and narrative is marked by an objective and psychological realism far ahead of his time. His "Novellen" opened a new era in which this genre reached its peak in Germany. His lyric poetry is undistinguished, except for some stirring patriotic songs.

Bibliography.—The Kleist-Gesellschaft, founded 1921, issued until 1937 *Jahrbücher* with invaluable bibliography. Best scholarly edition ed. Erich Schmidt and others, 5 vols. (Leipzig 1904-05); a revised edition of this, ed. Georg Minde-Pouet, 7 vols. (Leipzig 1937), remained unfinished. There is a voluminous literature.

WALTER SILZ,
Columbia University.

KLEMPERER, Otto, German orchestra conductor: b. Breslau, Germany, May 14, 1885. His career as a conductor started at the German Opera in Prague (1907). He was director of orchestras at Hamburg (1910-1914), Strasbourg (1914-1917), Cologne (1917-1924), and Wiesbaden (1924-1927). In the latter year he became musical director at the Kroll Opera in Berlin, where he introduced many new works. Soon after winning the Goethe Medal in 1933 he was forced to leave Germany, going to the United States and becoming conductor of the Symphony Orchestra at Los Angeles, a post he held until 1940. He was guest conductor of leading orchestras in New York, London, and Paris, and in 1946 returned to Europe as conductor of the Budapest Orchestra.

KLENGEL, August Alexander, German composer: b. Dresden, Germany, Jan. 27, 1783; d. there, Nov. 22, 1852. After studying art in his native city he went to Saint Petersburg, where he spent six years (1805-1811). Then he spent two years in Paris; after which he visited England and Italy, improving his execution and his knowl-

edge of his art. On his return to his native city in 1816 he became organist in the chief Roman Catholic church there. His music in the church soon became a feature of the musical life of the city; and many people not of the Catholic faith went to listen to his playing. He was as accomplished a pianist as organist; but his ability as a composer to-day outshines his work as a performer on these instruments. He wrote good salon music and numerous notable fugues and canons, among a multiplicity of other work, all of which is well done.

KLEPHTS, *klēfts* (Greek, "thieves"), Greek bandits who, after the conquest of Greece by the Turks in the 15th century, kept themselves free in the mountains of northern Greece and Macedonia, and carried on a perpetual war against Turkish rule, considering everything belonging to a Turk a lawful prize. During the war of independence these Klephts furnished the Greeks with some of their best soldiers and leaders. Whole tribes, as the Suliotes and Chimariots in Epirus, and the Sphakioti in Crete, are to be numbered among them. They developed a considerable literature of their own, especially in the form of ballads, usually composed in the vernacular. The gradual development of the country after its independence had been established resulted in the disappearance of this picturesque class. See GREECE.

KLEPTOMANIA (from Greek *κλέπτειν*, steal, and *μανία*, madness), a mania for stealing, a propensity often regarded as being irresistible and involving a kind of moral insanity. It is frequently pleaded in law courts as an excuse for theft, although the act constitutes a legal offense. See INSANITY.

KLESEL, Melchior. See KHLESL.

KLIKITAT, a shapatian tribe of North American Indians who once made their home in Klikitat and Skamania Counties, in the State of Washington. They are closely related linguistically to the Yakima who were their neighbors on the east. The Klikitat seem to have never, since they have come within the knowledge of the white man, been very numerous. Lewis and Clark, who visited them in 1805, placed their number at 700. This may not, however, have included all those speaking the same tongue. Between 1820 and 1830 they crossed the Columbia river and dispossessed the cognate tribes then occupying the Willamette Valley; but they were driven back over the river to their former habitat. The Klikitat were among the greatest traders of the western United States and Canada. They carried on an extensive trade, or exchange of commodities between the coast tribes and those living to the east, north and south of them. They were among the first of the western Indian tribes to cede their lands to the United States, which they did by the Yakima treaty (9 June 1855). In the more than 60 years which have passed since then, they have become so mixed with other Indian stocks and tribes that they are now undistinguishable as a separate race, though their descendants are still, for the most part, to be found on the Yakima reservation, Washington. It is, therefore, impossible to estimate their present numerical strength. The word Klikitat means, in Chinookan, "beyond or on the other side of" and was used with

reference to the Cascade mountains, which lay between the Klikitats and the coast tribes.

KLINGER, *klīng'ēr*, **Friedrich Maximilian von**, German dramatist, novelist and essayist: b. Frankfort-on-the-Main, 1752; d. 1831. By profession he was a soldier, though he early showed his literary tendencies when, as a student at Giessen, he was awarded a special prize for his tragedy 'Die Zwillinge' which was published in 1775. He was a man of considerable force of character; and he made rapid advancement in his military life just as he made a strong impression on the literature of his day. In 1776, the year following his literary début, he published a drama entitled 'Sturm und Drang' which was destined not only to profoundly influence the German literary tendencies of his day but to give its name to one of the most intensive literary movements in German literature. Klinger, after several years' military service in Germany, went to Saint Petersburg and there entered the Russian army where he remained most of his life, though in more or less close contact with the leaders of the literary movement in Germany. He rose, through gradual and successive promotions, to the rank of lieutenant-general, and he was held in high esteem by the Russian military authorities. In the army, too, he found some congenial literary spirits over whom he exercised considerable influence. Klinger was one of the first novelists in Germany who worked toward a certain definite purpose ethical in its tendencies; and this in itself attracted many literary men to his standard and gained many readers and critics for his works. Unfortunately his literary taste falls generally below his inventiveness; and so his works are constantly offending through the crudeness of their presentations and their lack of literary discrimination and good form. But the vehemence with which he presented his opinions, more or less novel, and therefore attractive in his day, outbalanced all the shortcomings of their author; gained for him a very extensive following and gave him an influence over literary thought and form of expression of his day out of all proportion to the real value and importance of his literary work. Yet, in the midst of much that offends good taste and of presentations and characterizations that are untrue to life, there is also much in Klinger's work that gave inspiration to the writers of his age and that left their impression indelibly imprinted upon the literary movement not only in Germany but upon that of most of Europe; for he was, in some senses, the most aggressive of the leaders of the "Storm and Stress" period in German literature. His work was very considerable and most of his writings have appeared in various editions. Among his works most worthy of attention for their own intrinsic merits and for the influence they have had on German literary thought are, in addition to those already mentioned, 'Faustus Leben, Thaten und Hölle fahrt'; 'Der Weltmann und der Dichter'; 'Betrachtungen und Gedanken über verschiedene Gegenstände der Welt und der Literatur'; and his dramas, all of which are interesting as reflecting the thought and the literary influences of the age in which he was active at work. A complete edition of his works

lished at Stuttgart in 1841, and a second edition, more or less selected in character, appeared in the same city in 1878-80 (8 vols.). Consult Erdmann, 'Klingers dramatische Dichtungen' (1877); Kürschner, 'Deutsche Nationalliteratur' (Vol. I, which contains 'Stünmer and Dränger,' Stuttgart 1883); Prosch, 'Klingers philosophische Romane' (Vienna 1883); Schmidt, 'Lenz und Klinger' (Berlin 1878). To these might be added a study of his life and work by Rieger (2 vols., Darmstadt 1880-96). This is very exhaustive, though not always reliable. It has been translated into French.

KLINGER, klīng'ēr, **Max**, German painter, sculptor and architect: b. Leipzig, 18 Feb. 1857. He is a pupil of Gussow at Karlsruhe and later at Berlin; studied also at the Berlin Academy; was active at Rome in 1888-92; and from 1893 at Leipzig. Of unusual versatility he was at first chiefly an etcher (1879-86), perhaps the best of his work in this line being the 'Brahmshantasi' (1894), deriving their subjects from various works of that composer. Then he directed his attention to painting in oils, and executed heroic canvases of 'The Crucifixion' (1890), now in the Hanover Museum, and 'Christ on Olympus' (1897) at Vienna. In 1894 he began to devote himself to polychromatic sculpture and one of the best of his plastic works is his statue of Beethoven (1902, Leipzig Museum), in which onyx, bronze and differently colored marbles are combined. Later works include 'The Drama' (1904), a colossal marble group in the Albertinum, Dresden; 'The Athlete,' a colossal bronze at Leipzig, and the striking bust of Nietzsche at Weimar. Klinger was the recipient of numerous awards, academic and otherwise, and honors in recognition of his art. He published 'Malerei und Zeichnung' (3d ed., 1909). He died 4 July 1920.

KLIPSPRINGER, a small, robust antelope (*Oreotragus saltator*), about equal in size to the chamois, and resembling it in habits, found in the mountainous districts of South Africa. It is yellowish-gray, and the hair is long and makes a rough fur. The flesh of the klipspringer is particularly esteemed; the hair is also valued for stuffing saddles; and it has therefore become rare in localities where it was once common. The pinnacles and precipices in which it delights make hunting it with dogs impossible, but to get within rifle shot of it is not difficult. Many interesting habits are given by writers on South African zoology and natural history.

KLÖDEN, klør'dën, **Karl Friedrich von**, German educator and geographer: b. Berlin, 1796; d. 1856. He received his education while apprenticed to a goldsmith; became Potsdam normal school director in 1817, and director, seven years later, in a Berlin commercial school. His chief geographical works are 'Landeskunde von Palästina' (1816); 'Grundrissen zu einer neuen Theorie der Erdgestaltung' (1824). Prominent among his historical works are 'Ueber die Entstehung, das Alter und die früheste geschichte der Städte Berlin und Köln' (1839); 'Lebens und Regierungsgeschichte Friedrich Wilhelms III' (1840); 'Die Onitzows und ihre Zeit' (3d ed., 1889). 'Jugend Erinnerungen Karl Fried-

richs von Klöden,' an autobiography (Leipzig 1874).

KLOET, a volcano on the island of Java. Although among the smaller of the numerous volcanoes there, it came prominently into notice on account of its eruption in May 1901, in connection with which, besides its destructive effects, there were peculiar atmospheric phenomena.

KLONDIKE, The, a famous gold-bearing stream which enters the Yukon, the principal river of the Yukon Territory, Canada, 45 miles below the mouth of Sixty Mile Creek. In recent years the term Klondike is applied to the region surrounding the river and its tributaries, which lies between Alaska and the British possessions. As early as 1862 gold was discovered in Alaska, but no special notice was taken of it; 13 years later gold was found at the head of the Stikine River. In 1879, Juneau, a Frenchman, discovered gold in a creek which they named Gold Creek, and at the mouth of this creek founded a town first called Harrisburg and later Juneau. In 1884 a rich find was reported on Stewart River, in the Yukon district, two years afterward gold was discovered on Forty-mile River close to the international boundary.

It was not till 1897 that the wonderful riches of the Klondike region were made known through George Carmack, who went from Illinois to Alaska in 1890 and there married an Indian squaw. On 16 Aug. 1896 he discovered coarse gold on Rabbit Creek, afterward called Bonanza Creek; the discovery got wind, and immediately all the people in the neighborhood made a rush for Bonanza Creek, which was staked from source to mouth. But it was not till the following summer that the outside world knew of the discovery, when a steamer reached Seattle with a load of gold from the Klondike. In the following year there was a great rush over the Chilkoot and White Passes and down the Yukon River to the district, no fewer than 28,000 persons entering the Territory. Dawson City, the first hut in which was built in September 1896, was founded, and in six months it had 500 houses, in 1901 had a population of 9,142, which had declined in 1921 to 975. Towns were also built at Granville and Grand Forks, and at White Horse at the northern terminus of the White Horse Railway.

The Klondike is not far from the Arctic regions, and for seven months of the year intense cold prevails, varied by furious snow storms which begin in September and occur at intervals till May. The mean temperature at Dawson City is minus 24° in January and 60° in July. By 20 October ice is formed over all the rivers, and the gravel deposits, from which the gold is mined, remain frozen winter and summer alike, and are covered by layers, from two feet to as much as 100 in depth of vegetable mold or "muck," also frozen into a solid mass. The conditions of gold mining in this region are therefore unique. The gravel must be thawed before it can be raised; and in the early days of mining in the Klondike, two methods, "ground-slucing and shovelling-in," and "drifting," were employed, the cost of mining running at from \$10 to \$25 a cubic yard. Steam-thawing was later introduced by McGillivray, a Californian mining engineer;

in some mines pulsometers are used to thaw the pay-dirt in the drifts; the mechanical movement of pay-dirt is accomplished by a self-dumping cable tram called the "Dawson carrier," which carries a bucket with a capacity of from 9 to 11 cubic feet; and gold-washing and separating plant has been installed. Many rich claims have been worked; one, the Eldorado paystreak, four miles in length, yielded gold of the value of \$25,000,000, or \$1,200 a running foot for the bottom of the valley. The total value of production in 1887 was \$70,000, the highest yield (1900) being valued at \$22,000,000. There has since been a decline in value, that for 1929 showing \$742,000. From 1885 to 1929 (inclusive) the total production was valued at \$176,000,000. See ALASKA.

KLONOWICZ, klō'no'vich, **Sebastian-Fabian**, Polish satirical poet: b. Sulmierzyce, 1551; d. Lublin, 1608. Studied at Cracow University, acquired the Latin name Acernus and established himself at Lublin, where he became burgomaster and president of the civil tribunal of the Jewish community. Of modest and virtuous character, his wife was a dissipated, vicious woman who brought him to poverty, obliging him in age to take refuge in the city retreat as an object of Catholic charity. He wrote 'Victoria deorum,' a poem concerning the ills of the poor at the hands of the rich; 'Roxolania' (1584), poem descriptive of Red Russia (Galicia); 'Flis, or the boatman navigating on the Vistula from Cracow to Danzig' (1600); 'Worek Judaszow,' or Judas purse, decrying the wicked acquisitions of the rich (1600); 'Memorial of the Dukes and Kings of Poland' (1600, 1620 and 1639). The Jesuits, against whom Klonowicz leveled so many of his satires and who helped him when in misfortune, burned all his works they could acquire, and some have become very rare.

KLOPP, klöp, **Onno**, German historian: b. Leer, East Friesland, 9 Oct. 1822; d. 1903. He studied at Bonn, Berlin and Göttingen (1841-45), and taught at Osnabrück Gymnasium (1845-58). He shared as intimate friend the exile of King George V of Hanover (1866). Becoming Roman Catholic (1873) his aversion to the Prussians increased and is distinctly marked in his writings. Later he went to Austria. He wrote 'Die Geschichte Ostfrieslands' (1854-81), 'König Friedrich II von Preussen und die deutsche Nation' (1860; 2d ed., 1867); 'Der König Friedrich II von Preussen und seine Politik' (1861); 'Tilly im Dreissigjährigen Kriege' (1861); 'Der Fall des Hauses Stuart' (14 vols., 1875-83); 'Das Jahr 1683' (1882); 'König Georg V' (1878); 'Der Dreissigjährige Krieg bis zum Tode Gustav Adolfs, 1632' (1891-96). He also edited the correspondence of Leopold I with Father Marco d'Aviano (1888).

KLOPSTOCK, klöp'stöck, **Friedrich Gottlieb**, German poet: b. Quedlinburg, Prussia, 2 July 1724; d. Hamburg, 14 March 1803. He studied at the school in his native town and at Schulpforta, and later pursued the course in theology at Jena and Leipzig. He is widely famous as the author of the sacred epic, 'Der Messias,' the first three cantos of which were published in 1748. They are in the Miltonic style, and excited general attention. In consequence, Klopstock was invited to Copenhagen

by the minister Bernstoff, and offered a small pension. In 1764 he wrote his drama 'Hermanns Schlacht' (Battle of Arminius), and in 1771 left Copenhagen for Hamburg, under the character of Danish secretary of legation and counsellor of the margrave of Baden. In Hamburg he finished his 'Messias' (1773). He also wrote 'Die Gelehrtenrepublik' (The Scholar's Republic) (1744), his chief work in prose; 'Geistliche Lieder' (1758); 'Oden' (1771); and several dramas, in addition to the one already named. His reputation did not survive, but he is still known for his great service to German literature in assisting to free it from foreign, especially French, influence. His collected works were published in 12 volumes at Leipzig 1798-1817. A fine edition by Muncker appeared in 4 volumes, 1887 (See MESSIAH, THE). Consult Lyon, 'Ueber Klopstocks Verhältniss zu Goethe' (1879); Lappenberg, 'Briefe von und an Klopstock' (1867); Häbler, 'Milton und Klopstock' (1893).

KLOSS, klös, **Georg Franz Burkhard**, German physician and bibliophile: b. Frankfurt, 31 July 1787; d. there, 10 Feb. 1854. He was the son of a doctor and studied medicine in Heidelberg and Göttingen, but soon turned to book collecting, and gathered a fine collection of old manuscripts, purchasing entire libraries of monasteries. Obtaining Masonic degrees, he started collecting books referring to Freemasonry. In 1844 appeared, at Frankfurt, a bibliography of the Masonic works in his collection, another in 1846. His work 'Die Freimaurerei in ihrer wahren Bedeutung aus den alten und ächten Urkunden' reached its second edition in 1854; he published (1848) 'Geschichte der Freimaurerei in England, Irland und Schottland,' then 'Geschichte der Freimaurerei in Frankreich' (1852-53). His magnificent library of Masonic works is now at The Hague.

KLOSTERMANN, klös'tér-man, **August Heinrich**, German Lutheran theologian: b. Steinhude, Schaumburg-Lippe, 16 May 1837. He studied at Erlangen University and Berlin (1855-58), was assistant pastor in Buckeburg (1859-64), and was repetent and private teacher (*docent*) at Göttingen (1864-68) and has since been professor of Old Testament exegesis at Kiel. He wrote 'Vindicæ Lucanæ' (Göttingen 1866); 'Das Markus evangelium nach seinem Quellenwerthe für die evangelische geschichte' (1867); 'Untersuchungen zur alttestamentlichen Theologie' (Gotha 1868); 'Ueber deutsche Art bei Martin Luther' (1884); 'Die Bücher Samuelis und der Könige ausgelegt' (Nordlingen 1887); 'Zur Theorie der biblischen Weissagung und zur Charakteristik des Hebräerbriefes' (1889); 'Deuteriojesaja, hebräisch und deutsch' (Munich 1893); 'Schulwesen sin alten Israel' (1908). Died, 1915.

KLOTZ, klöts, **Christian Adolf**, German critic and Latin scholar: b. Bishopswe Nov. 1738; d. Halle, 31 Dec. 1771. He was at Leipzig and Jena; became professor of philosophy at Göttingen 1763; and professor of oratory at Halle 1765. He proved expert in philology through his Latin lectured in 'Opuscula poetica' (1766); 'gabe des Tyrtäos' (1764); numerous treatises such as 'Opuscula varii argumenti' (1766); 'Opuscula philologica et oratoria' (1772). He

ot into controversy with the *Allgemeinen Bibliothek*, to which he had contributed, and by his *Über den Nutzen und Gebrauch der alten gemauerten Steine* (1768), criticizing Gotthold Ephraim Lessing's *Laokoon*, he brought forth his poet's response in the *Briefe antiquarischen Inhalts* (1768–1769). His disputes were carried on in *Acta Literaria* and *Deutschen Bibliothek der schönen Wissenschaften* (1767–1772); *Genus Saeculi* (1760) had a satirical purpose, as also had his *Mores Eruditorum* and *Opuscula Latina* (1760).

KLOTZ, Louis Lucien, French statesman: b. Paris, Jan. 11, 1868; d. there, June 15, 1930. He was of Alsatian descent. In 1888 he founded the *Le Franco-Russe*, and in 1895 became editor of the *L'oltair*; and in 1895 he established the *français Quotidien*. He made a special study of financial affairs, customs, and the state contracts with the railway companies. After two unsuccessful attempts, in 1898 he was elected as a Radical Socialist to the French legislature. Subsequently he held the portfolio of minister of finance in several administrations. With outbreak of World War I in 1914 he was made head of the press department of the Ministry of War, and when Georges Clemenceau (q.v.) again became premier in 1917 he returned to the Cabinet as finance minister. In 1919 he was appointed one of the French delegates to the Paris Peace Conference. He was largely responsible for the financial clauses of the Treaty of Versailles.

KLOTZ, or KLOZ, Mathias, Bavarian violinmaker: b. Mittenwald, June 11, 1653; d. there Aug. 16, 1743. The head of a celebrated family of violinmakers, he is believed to have been a pupil of Nicolò Amati (see AMATI) at Cremona, Italy. He was active in Padua before returning Mittenwald in 1683. His violins were much in the manner of those of Jakob Stainer, or Steiner (q.v.), so that only the less metallic tone of Klotz' instruments offers a distinguishing feature. He taught the craft of violinmaking to his three sons: Georg (b. 1687), Sebastian (b. 1696), and Johann Karl (b. 1709); Sebastian was regarded as the finest violinmaker.

KLOTZ, Otto Julius, Canadian civil engineer and astronomer: b. Preston, Ontario, March 31, 1852; d. Ottawa, Dec. 28, 1923. In 1879 he joined the staff of the topographical surveys division of the Canadian Department of the Interior. Employed principally in the northwest, he was largely responsible for establishing geographic points of reference in British Columbia and northwestern Canada. During 1893–1894 he was engaged in the survey of the boundary of Alaska. From 1917 until the close of his life he served as director of the Dominion Observatory, at Ottawa. His published writings included numerous papers on astronomy, geodesy, and terrestrial magnetism.

KLUANE, klōō-ān', lake, Canada, largest body of water in the Yukon Territory, is situated on the northern slope of the Saint Elias Range; the area is 184 square miles. The Kluane River, which issues from the lake, discharges into the White River. The Alaska Highway skirts the north and west shores of the lake. Kluane is a post on the highway at the southern end of the lake.

KLUANG, klōō-äng', town, Federation of Malaya, in the state of Johore, on the Endau River near the east coast of the Malay Peninsula. The coconut industry is of importance. Pop. 6,473.

KLÜBER, klü'bër, Johann Ludwig, German law professor, author; and state official: b. Tamm, near Fulda, Nov. 10, 1762; d. Frankfurt, Feb. 16, 1837. He became professor of law at the University of Erlangen (1786), privat-referendar, state and cabinet counsel, in Karlsruhe (1804), and professor of law at Heidelberg (1807). During 1814–1815 he attended the Congress of Vienna, concerning which he wrote *Acten des Wiener Kongresses in den Jahren 1814 und 1815* (8 vols.); an enlarged edition was published 1830 under the title of *Quellensammlung zu dem öffentlichen Rechte des Deutschen Bundes*. Under Prince Karl August von Hardenberg, chancellor of state, he became privy councillor in the Ministry of Foreign Affairs (1817) and, under its auspices, he assisted in the congress at Aix-la-Chapelle (1818), and in political negotiations in Frankfurt and Saint Petersburg. In 1822 he published the second edition of his *Öffentliche Rechte des Deutschen Bundes*, which brought on political persecution, his resignation, and retirement to Frankfurt, where he died. Other prominent works are *Staatsrecht des Rheinbundes* (1808); *Die Selbständigkeit des Richteramtes und die Unabhängigkeit seiner Urteile in Rechtsprechen* (1832); *Pragmatische Geschichte der nationalen und politischen Wiedergeburt Griechenlandes* (1835).

KLUCK, klōōk, Alexander von, German army officer: b. Münster, Westphalia, May 20, 1846; d. Berlin, Oct. 19, 1934. Entering the army in 1865, he fought in the Austro-Prussian War of 1866 and in the Franco-Prussian War of 1870–1871. He reached the rank of general of infantry in 1906, and two years later he was ennobled. With outbreak of World War I in 1914 he was given command of the First Army. After receiving the surrender of Brussels he drove the British from Mons, took Tournai and Maubeuge, and continued his advance southwest in the direction of Paris. His swing to the southeast at this critical juncture exposed his left flank, which made possible an attack by the French 6th Army under Michel Joseph Maunoury. This brought about his defeat at the Battle of the Marne and forced his retreat to the Aisne. In March 1915, while inspecting an advanced position, he was wounded; and in October 1916 he was placed on the retired list. He published an account of his major campaign entitled *Der Marsch auf Paris und die Schlacht am Ourcq 1914* (1920).

KLUGE, klōō'gë, Friedrich, German philologist and educator: b. Cologne, Germany, June 21, 1856; d. Freiburg, May 21, 1926. A student of philology at Leipzig, Strasbourg, and Freiburg, he was professor of German language and literature at Jena (1884–1893), then at Freiburg. Author of numerous works on philology, Kluge's special fields were Germanic, Gothic, and English etymology and the history of language. Among his best known works are *Etymologisches Wörterbuch der deutschen Sprache* (1881; 16th ed. 1953); *Von Luther bis Lessing* (1888; 5th ed. 1918); *Unser Deutsch* (1907; 5th ed. 1929); and *Deutsche Sprachgeschichte* (1921; 2d ed. 1924).

KLUGE, Hans Günther von, German field marshal: b. Posen, Germany, Oct. 3, 1882; d. France, Aug. 19, 1944. An artilleryman, he served as a staff officer and also in command of troops during World War I, and held various commands in the reorganized army from 1934. At the outset of World War II he commanded the Fourth German Army in the Polish, Western, and Eastern campaigns until December 1941, then the center group of armies on the Eastern front. On July 6, 1944, he replaced Field Marshal Karl von Rundstedt as supreme commander in Western Europe. He was among the senior officers implicated in the attempted assassination of Hitler on July 20. The failure of that plot, the fact that his part would almost certainly be discovered, and his realization of his country's inevitable defeat led him to plan the surrender of all the armies in his command. He arranged a rendezvous with officers of the American Third Army near Avranches (Manche), but the meeting never took place, the Allied delegation being delayed by Allied bomb attacks. However, Kluge absented himself from his command for 24 hours, leaving it exposed to attack while attempting to keep the appointment. Hitler, learning of his unauthorized absence, summoned him to Berlin. Kluge proceeded to Metz by motor, obedient to an order to emplane there for Berlin. Somewhere on the road to Metz he swallowed poison, dying before his arrival.

KLUGHARDT, klōōk'härt, August Friedrich Martin, German composer and conductor: b. Köthen, Germany, Nov. 30, 1847; d. Dessau, Aug. 3, 1902. He was a theatrical conductor at Weimar (1869–1873), Nestrelitz (1873–1882), and Dessau (after 1882). His mature compositions reflect the influence of Franz Liszt. In addition to chamber works, symphonies, concertos, and orchestral suites, he composed much music for the stage, including the operas *Miriam* (1871), *Iwein* (1879), *Gudrun* (1882), and *Die Hochzeit des Mönchs* (1886). His best-known work is the oratorio *Die Zerstörung Jerusalems* (1899).

KMETY, k'mēt'y', György, Hungarian-Turkish army officer: b. Pokorág, Hungary, 1810; d. London, England, April 25, 1865. He distinguished himself in the Hungarian struggle for independence (1848–1849) as a commander under the patriot leader Arthur von Görgey, but was compelled to flee the country after Görgey surrendered to a Russian army in August 1849. Kmety went to Turkey, became a Moslem, and, as Ismail Pasha, served as a general in the Turkish Army. He defended the Armenian stronghold of Kars against Russian besiegers in the Crimean War (1854–1855).

KNAB, k'näp, Armin, German composer: b. Neuschleichach, Germany, Feb. 19, 1881; d. Bad Wörishofen, June 24, 1951. He composed chiefly vocal works, in which he tried to reproduce the spirit and musical qualities of German folk songs. Between 1933 and 1945 he composed a number of songs expressing Nazi ideology. Among his best works are the *Eichendorff* and *Wunderhorn* song cycles. In later years he composed chiefly unaccompanied choral music, notably the cycle *Zeiten*.

KNABE, k'nä'bē, Valentine Wilhelm Ludwig, German-American piano manufacturer: b.

Kreuzburg, Germany (now Kluczbork, Poland), June 3, 1803; d. Baltimore, Md., May 21, 1864. He emigrated to the United States in 1833, and about 1840 began to manufacture pianos in Baltimore, Md. The business was almost ruined during the Civil War but was later revived by his sons, ERNST KNABE (1837–1894) and WILLIAM KNABE (1841–1889), under whose direction the Knabe piano won an international reputation.

KNACKFUSS, k'näk'fōōs, Hermann, German painter and writer on art: b. Wissen, Germany, Aug. 11, 1848; d. Kassel, May 17, 1915. He studied at the Düsseldorf Academy of Arts (1865–1869) and in Rome (1875–1878). After 1880 he was a professor at the Academy of Fine Arts in Kassel. He painted mural and historical scenes in realistic style. He was the author of *Deutsche Kunstgeschichte* (1888), and, after 1895, editor of *Künstler-Monographien* (completed by other hands in 122 volumes, 1911). His brother, HUBERT KNACKFUSS (b. Dillingen bei Aachen, Germany, June 25, 1866; d. Munich, April 30, 1948), architect and archaeologist, was director of the German Archaeological Institute in Athens (after 1912) and a professor at Munich (1919–1934).

KNAPP, Georg Friedrich, German economist: b. Giessen, Germany, March 7, 1842; d. Darmstadt, Feb. 20, 1926. He studied in Munich, Berlin, and Göttingen and in 1867 became director of the Statistical Bureau of Leipzig. Subsequently he was assistant professor of economics at the University of Strasbourg (1874–1918). A leader of the historical school in economics, the influential tendency in Germany in the late 19th century, he was the author of numerous works on statistical method in economics, economic theory and economic history, notably *Die Socialtheorie des Geldes* (1905; 2d ed., 1923); *Die Bauernbefreiung und der Ursprung der Landwirtschaft in den älteren Teilen Preussens* (1887, ed. 1927); and *Grundherrschaft und Kitten* (1897).

KNAPP, näp, George, American journalist: b. Montgomery, N. Y., Sept. 25, 1814; d. at sea Sept. 18, 1883. At an early age he became an apprentice in the office of the *Missouri Republican* in St. Louis, the oldest English-language newspaper west of the Mississippi River. He became part owner in 1837, and subsequently made it one of the most influential newspapers in the United States. Under his control the *Republican* supported the Whigs until the party's disintegration in the 1850's; afterward it supported the Democrats. It was pro-Union but anti-Lincoln in the Civil War.

KNAPP, Martin Augustine, American jurist: b. Spafford, N. Y., Nov. 6, 1843; d. Washington, D.C., Feb. 10, 1923. He graduated from Wesleyan University in 1868 and was admitted to the New York bar in 1869. He practiced in Syracuse, serving as city corporation counsel (1877–1883), and became an authority on legal and other problems of transportation. In 1883 he was appointed by President Benjamin Harrison to the Interstate Commerce Commission, and was reappointed by succeeding presidents until serving as chairman from 1898. He was also federal mediator in numerous railroad labor disputes, a judge of the United States Commerce

urt (1910-1913), and (after 1913) of the Circuit Court of Appeals.

KNAPP, Samuel Lorenzo, American author: Newburyport, Mass., Jan. 19, 1783; d. Hopkinton, July 8, 1838. He graduated from Dartmouth College in 1804 and subsequently was an attorney in Newburyport, a representative in the Massachusetts state assembly (1812-1816), and a colonel of the state militia during the War of 1812. Imprisoned for debt in 1816, after his release went to Boston to start a new legal practice, but soon turned to journalism. He was editor of the *Boston Gazette* (1824-1826), the *Boston Monthly Magazine* (1825-1826), and the *Boston National Republican* (1826-1827). For a period after 1827 he edited the *National Journal* in Washington, D.C.; later he was associated with the *New York Commercial Advertiser*. Knapp was the author of numerous biographical works, notably *Biographical Sketches of Eminent Lawyers, Statesmen, and Men of Letters* (1821); *A Discourse on the Life and Character of DeWitt Clinton* (1828); *A Memoir of the Life of Daniel Webster* (1831); *The Life of Thomas Eddy* (1834); and *The Life of Aaron Burr* (1835).

KNAPP, Seaman Asahel, American agriculturist and educator: b. Schroon Lake, N. Y., Dec. 1833; d. Washington, D.C., April 1, 1911. Graduated from Union College in 1856 and became a teacher. An incapacitating accident interrupted his career in 1866, and he removed to Iowa where at various times he was a farmer, Methodist clergyman, and superintendent of the school for the blind. Becoming interested in scientific farming and stock breeding, he founded the *Western State Journal and Farmer* at Cedar Rapids, Iowa, in 1872 and was a cofounder of the Iowa Improved Stock Breeders' Association, of which he was the first president. After 1880 Knapp's agricultural pioneering began to assume national importance. He introduced improved methods of farming into Louisiana, spurred the development of rice culture in the Southwest, demonstrated methods for curbing the boll weevil in Texas, and inaugurated a federal program of model demonstrations throughout the South. He was the author of many farmers' bulletins issued by the United States Department of Agriculture and numerous articles. The Seaman A. Knapp School of Country Life, associated with the George Peabody College for Teachers, Nashville, Tenn., was named for him.

KNAPP, William Ireland, American scholar and educator: b. Greenport, N. Y., March 10, 1815; d. Paris, France, Dec. 6, 1908. He graduated from Colgate University in 1860, was professor of French and German there (1860-1865), and professor of ancient and modern languages at Yale (1865-1867). The next 12 years he spent in Europe, mostly in Spain. On his return to the United States he was appointed Street Professor of Modern Languages at Yale (1880-1892), and later was professor of Romance languages and literature at the University of Chicago (1892-1908). His last years were spent in Paris. Knapp translated the works of Juan Boscán Almogaver and the poems of Diego Hurtado de Mendoza (1876-1877), and was decorated by the Spanish government. An authority on George Borrow, he brought out the two-volume *Life, Writings and Correspondence of George Borrow* (1899) and

editions of *Lavengro* (1900) and *The Romany Rye* (1900).

KNAPWEED. See CENTAUREA.

KNATCHBULL-HUGESSEN, nach'hül-hū'jě-sèn, **SIR Edward Hugessen**, English politician and author: b. Mersham, Hatch, Kent, England, April 29, 1829; d. Smeeth, Kent, Feb. 6, 1893. Son of Sir Edward Knatchbull (1781-1849), paymaster of the forces and a privy councillor, and a grandnephew of Jane Austen, he entered political life at an early age, holding various posts under Gladstone. On entering the House of Lords in 1880 as 1st Baron Brabourne, he became a Conservative. He wrote several books for children, including *Crackers for Christmas* (1870) and *Higgledy-Piggledy* (1875); and for adult readers, *Life, Times, and Character of Oliver Cromwell* (1877), and *Facts and Fiction in Irish History* (1886).

KNATCHBULL-HUGESSEN, SIR Hughe Montgomery, English diplomat: b. London, England, March 26, 1886. Son of a clergyman, he was educated at Eton and Balliol College, Oxford, then entered the Foreign Office (1908). Attached to the British delegation at the Versailles Peace Conference, he was counselor of embassy at Brussels (1926-1930); minister to Iran (1934-1936); and ambassador to China (1936-1938). After a tour as ambassador to Turkey (1939-1944) he ended his diplomatic career as ambassador to Belgium and minister to Luxembourg (1944-1947).

KNAUS, k'nous, Ludwig, German painter: b. Wiesbaden, Germany, Oct. 5, 1829; d. Berlin, Dec. 7, 1910. He studied art in Düsseldorf, Paris, and Italy, his earliest works being landscapes and genre paintings in the manner of the Düsseldorf school, dark-colored and meticulously realistic. His mature style favored more lively tones and was influenced by the Dutch masters. Knaus was noted for his portraits and genre paintings.

KNEASS, knēs William, American engraver: b. Lancaster, Pa., Sept. 25, 1780; d. Philadelphia, Pa., Aug. 27, 1840. Trained as an engraver in Philadelphia, where he set up in business in 1804 and subsequently became well known for his art, after 1824 Kneass worked as engraver and diesinker for the United States Mint. He produced numerous dies for the gold coinage of 1834 and 1838 and for the silver coinage of 1836, 1837, and 1838.

KNEBEL, k'nā'hēl, Karl Ludwig von, German poet and translator: b. Wallerstein, near Nördlingen, Germany, Nov. 30, 1744; d. Jena, Feb. 23, 1834. He was an officer in a Prussian regiment (1763-1774), and subsequently tutor to Prince Konstantin of Saxe-Weimar (1774-1779). On a journey to Paris with his pupil and the latter's brother Karl August, heir apparent of Saxe-Weimar, Knebel visited Goethe at Frankfurt am Main, and introduced his royal companions to the poet. Karl August became Goethe's patron, and Knebel thereafter was a member of Goethe's intimate circle. He was the author of two collections of verse, *Kleine Gedichte* (1815) and *Distichen* (1827); but his best works were his translations of the classical poets, Sextus Propertius (1798) and Lucretius (1821). His *Correspondence with*

Goethe' (Leipzig 1851, 5 vols.); 'Letters from Duke Karl August of Saxe-Weimar-Eisenach' (ib. 1883); and a collection 'From Knebel's Correspondence with his Sister Henrietta' (Jena 1858), all afford very interesting light on the social culture of the noted period at the court of Weimar.

KNEE JERK, or **PATELLAR REFLEX**, a useful reflex test in diagnosis. When the leg is resting in an easy position, crossed over the other leg, for instance, a sharp blow given to the patella (knee-cap) tendon causes a sudden jerking forward of the leg. This action is brought about by a contraction of part of the quadriceps of the femur bone. This sudden extension of the leg is known as "knee-jerk" and it is generally considered as a reflex action and is often tested for the symptoms of disease, the action being restricted in cases of locomotor ataxia, lead poisoning, chronic alcoholism, and even absent in severe cases, while in other diseases as neurasthenia, hemiplegia, spastic paraplegia, etc., the kick becomes abnormally extended.

KNEELAND, nē'lānd, **Abner**, American theologian and deist: b. Gardner, Mass., 6 April 1774; d. Farmington, Iowa, 27 Aug. 1884. He was at first Baptist, then entered the Universalist ministry, but later became deist. He edited Universalist literature at Philadelphia and New York, then went to Boston where he founded (1831) the *Investigator*. His expressed tenets brought him into the Boston Supreme Court (1836) where he was given a short sentence of imprisonment as guilty of blasphemy. He wrote 'The New Testament in Greek and English' (Philadelphia 1822); 'Lectures on the Doctrine of Universal Salvation' (1824); 'A Review of the Evidences of Christianity' (New York 1829). Consult Kneeland, A., 'Review of the Trial, Conviction and Final Imprisonment . . . of A. Kneeland' (Boston 1838); Parker, S. D., 'Report of the Arguments of the Attorney . . . at the Trial of A. Kneeland' (ib., 1834); 'Review of the Prosecution against A. Kneeland' (in *Cosmopolite*, ib. 1853).

KNEELAND, **Samuel**, American naturalist: b. Boston, Mass., 1 Aug. 1821; d. Hamburg, Germany, 27 Sept. 1888. He was graduated from Harvard in 1840, practised medicine in Boston 1845-50, and was an army surgeon during the Civil War. In 1866 he became professor of zoology and physiology in the Massachusetts Institute of Technology. He was a member of numerous scientific societies, and in addition to editing 'The Annual of Scientific Discovery' (1886-89), a translation of 'Andry's Diseases of the Heart' (1847), and Smith's 'History of the Human Species,' he wrote 'Science and Mechanism' (1854); 'The Wonders of the Yosemite Valley and of California' (1871); 'An American in Iceland' (1876); 'Volcanoes and Earthquakes' (1888).

KNEIPP, knip, **Sebastian**, German clergyman: b. Stefansried, Bavaria, 17 May 1821; d. Worishofen, Swabia, 17 June 1897. He studied theology at Dillingen and Munich, became a Roman Catholic priest in 1852 and pastor at Worishofen in 1881. He became known for the "Kneipp cure," which he advocated for years. This method was based on water, fresh air, sun-

shine and a scheme of regular activity, and included walking barefoot in dew-moistened grass and on snow. Kneipp wrote 'Meine Wasseur' (1887; Eng. trans. 1891); 'Mein Testament' (1894); 'Vorträge in Wörishofen' (1894-98); and other works. His collected works were published at Kempten (1898-99). Consult Verus, 'Vater Kneipp, sein Leben und Wirken' (Kempten 1897).

KNEISEL, **Franz**, German-American musician: b. Rumania, 26 Jan. 1865; d. 26 March 1926. He was a pupil in violin-method of Gruhn and Hellmesberger, became concert-master of the orchestra at Hofburg Theatre of Vienna of Bilse's orchestra at Berlin, and later (1885) of the Boston Symphony Orchestra. He appeared prominently with the Symphony as solo violinist and in 1886 organized under his leadership the Kneisel quartet for chamber music, in which he played the first violin part. This quartet, all of whom were also members of the Symphony, withdrew from the latter in 1903 to undertake an extensive tour. Several European tours were undertaken with success. He removed to New York where from 1905 he was chief of the violin department of the Institute of Musical Art. He was member of the jury of the violin competition at the Paris Conservatory. He received the degree of Mus.D. from Yale in 1911 and from Princeton in 1915. He compiled 'The Kneisel Collection for Violin and Piano' (3 vols., 1900) and composed 'Advanced Studies for the Violin' (1910) and a concert etude.

KNELLER, nē'l'ēr, **Sir Godfrey**, originally **GOTTFRIED KNILLER**, Anglo-German portrait painter: b. Lübeck, 8 Aug. 1646; d. Twickenham, England, 7 Nov. 1723. He studied under Bol and Rembrandt at Amsterdam. He visited Italy in 1672, where he studied under Maratti and Bernin and painted several historical pieces and portraits, both at Rome and Venice. On his return he visited England, in 1674, and was introduced to Charles II, by whom he was much patronized and thereby enabled to quickly outstrip Lely (q.v.) in popularity. He was equally favored by James II, William III and Queen Mary, for the latter of whom he painted the "beauties" at Hampton Court, and several of the portraits in the Gallery of Admirals. He also painted the portraits of the Tsar Peter the Great, Louis XIV and Charles VI of Spain for the same sovereign, who in 1692 knighted him and made him gentleman of the privy chamber. Queen Anne continued him in the same office, and George I, in 1715, made him a baronet. There was hardly a person of note, at least resident in or visiting England, of whom he did not paint a portrait. Among his works should be mentioned also a series of 43 portraits of his co-members in the famous Kit-Cat-Club. He continued to practise his art to an advanced age. Naturally his earnings were very large. Although he lost a good deal of money in the South Sea Bubble and lived in great style, both in London and on his estate, Kneller Hall near Twickenham — now an army college for military musicians — he left a large fortune. He left money and instructions for a splendid monument to himself in Westminster Abbey, erected by Rysbrack in 1729, which bears an epitaph by Pope. His coloring is true and harmonious and his drawing correct, but he dis-

plays a great want of imagination in his pictures, the attitudes, action and drapery being insipid, unvarying and ungraceful. Many of the portraits bearing his name were only partly painted by himself, the less important portions being done by assistants. His fame has declined considerably as time passed, a natural enough fact considering the great superiority possessed by later English portrait painters, such as Reynolds, Gainsborough, etc. His work can be studied to greatest advantage at Hampton Court and in the National Portrait Gallery, London. Comparatively few of his paintings are owned outside England, though there are specimens in the galleries at Antwerp, Brunswick, Munich and Vienna. Consult Ackermann, W. A., 'Der Porträt-Maler Sir G. Kneller im Verhältniss zur Kunstbildung Seiner Zeit' (Lübeck 1845); Anon., 'Lely and Kneller' (in *Munsey's Magazine*, Vol. XVII, p. 542, New York 1897); Baker, C. H. C., 'Lely and the Stuart Portrait Painters' (2 vols., London 1912); Buckeridge, B., 'Life of Sir G. Kneller' (in Piles, R. de, 'The Art of Painting,' 3d ed., London 1750).

KNESEBECK, knä'zë-bëk, Karl Friedrich von dem, Prussian general field marshal: b. Karwe, near Neuruppin, 5 May 1768; d. 12 Jan. 1848. He entered the army (1782) and gained distinction in the campaigns of 1792-94 and was made captain (1799), major (1802), being on the general staff at Auerstadt (1806), when he saved the king from being taken prisoner. He drew up the plan of battle at Pultusk (1806) in the Russian campaign but retired, at the Treaty of Peace of Tilsit, to his estate. He was sent (1809) on a diplomatic mission to Austria during the Franco-Austrian War and went on a mission to Russia in the winter of 1811-12, advising peace. He was made general-adjutant to the king in 1813 and carried on the negotiations with Austria for a coalition, failing which he took a prominent part in the plan of action, hindering the bold schemes of Blücher and Gneissenaу. He was a prominent figure in the continuation of the campaign (1813-14) and in the plan of action. In 1847 he was appointed commander-general of the army of observation against Poland, and, on his retirement, was created field-marshal. His memoirs are said to be unreliable. He wrote also 'Lob des Kriegs' (1805), a poem which had great popularity. Consult Dunker, 'Die Mission des Obersten von dem Knesebeck' (in *Abhandlungen zur preussischen Geschichte*, Leipzig 1876); Lehmann, M., 'Knesebeck und Schön' (ib. 1875).

KNIAZHININ, knyäzh-nën, Jakov Borisovich, Russian litterateur and dramatic author: b. Pskov, 3 Oct. 1743; d. 14 Jan. 1791. He was educated in the University of Saint Petersburg, entered the army, where, however, he stayed only a short time, and for a number of years was connected with the civil service. In 1783 he became a member of the Russian Academy at Saint Petersburg. Of his tragedies the majority are but imitations of French plays, containing with the exception of one or two nothing original. His comedies are replete with bright passages and full of spirit. The tragedies most worthy of mention are 'Didon' (1769); 'Vladimir i Iaropolh' (1779); 'Vladisan' (1786); 'Roslay' (1784); 'Vadim Novgorodskii'

(1789). The two last were patriotic plays, some of the passages of the 'Vadim' being of such a character as to alarm Catharine II and cause its suppression, but it was published in 1793, two years after the death of the author. Of his comedies the most noteworthy are 'Khvastum'; 'Chudakhi'; and the light opera 'Neschastie ot Karety.' A complete edition of his works, in four volumes, was published in 1787, several subsequent editions being published in two volumes in 1847-48.

KNICKERBOCKER, nīk'ër-bōk-ër, the cognomen of an old Dutch burgher family of colonists in New York. The word has been used colloquially for many years as expressive generically of the old elite resident families of New York City, but more properly restricted to the persons descended from the old Dutch settlers of Manhattan Island. Washington Irving, in his 'History of New York' (1809) names the author as 'Diedrich Knickerbocker.'

KNICKERBOCKER, Herman, American lawyer and legislator: b. Albany, N. Y., 27 July 1782; d. Williamsburg, N. Y., 30 Jan. 1855. He studied law at Albany, N. Y., was admitted to the bar in 1803 and entered practice in Albany. In 1809-11 he was a Federalist representative from New York in the 11th Congress, in 1816 was elected to the New York State Assembly from Rensselaer County, and for some time also held the office of county judge. He became a Democrat during Jackson's administration. Through his hospitality he was known as "Prince Knickerbocker."

KNICKERBOCKER HISTORY OF NEW YORK, The. Knickerbocker's 'History of New York from the Beginning of the World to the End of the Dutch Dynasty,' planned and partly written by Peter and Washington Irving together, was later replanned by the younger brother, entirely executed by him and published in 1809 under the whimsical pretense of being by an eccentric Dutch antiquary, Diedrich Knickerbocker. It was originally meant to be a mere skit by which two gay young men might poke fun at their fellow-townsmen, but it grew unconsciously into a full-bodied masterpiece of good-humored satire which established the settlers of an obscure Dutch colony as permanent citizens of the wider world of historical legend. Irving did not derive from facts his conception of the first New Yorkers, nor did he invent it; he merely followed a tradition current in British satire since the wars with Holland in the 17th century. The idea of writing burlesque history, too, was not novel. Moreover, Book I of the Knickerbocker 'History,' with its parodies of pedantic learning, belongs rather with the plan relinquished than with the mature performance. But Irving's indebtedness and his halting overture only slightly modify the credit due him for his comic masterpiece. Hearty affection for New York, tenderness toward any past with a touch of myth in it, natural mellowness of language—these lend substance to a gay and impudent wit. In the third book, which deals with the unforgettable Wouter Van Twiller and the manners of his reign, Irving is at once brilliant and charming. The books recording the deeds of Peter Stuyvesant are even more spirited, particularly in the passages of mock-heroic, which are hardly to be matched else-

where in English. Illustrations for the 'History' have been made by Allston, Leslie, Jarvis and Darley.

CARL VAN DOREN.

KNIFE. A cutting tool of steel, german-silver, silver, gold, bone, horn, wood or other material. According to the purposes for which it is constructed it is called bread-knife, pen-knife, table-knife, erasing-knife, paper-knife, butchers'-knife, etc. Knives can be divided into two broad classifications as having blades that fold into or onto the handle and those that have fixed blades. The essential parts of a knife are its blades and its handle (known as a *haft*); exceptions to the rule are those consisting solely of a blade, as those used by furriers, cigarmakers, etc. The knife haft generally consists of wood, bone, ivory, horn, metal, mother-of-pearl, etc. For the technical make-up of knives see under article CUTLERY.

History.—In its most primitive form the knife was formed from a piece of flint or other stone. The chipped and polished flint knives of the Stone Age (many are extant) are frequently wonderfully formed and show consummate skill in construction. They have keen, practical cutting edges, the ends usually pointed. These are found in nearly all parts of the globe. With the discovery of bronze (Bronze Age), knife blades were among the earliest utensils to be made from this metal. These are found in numbers in the ancient prehistoric "lacustrian" villages of Switzerland, some being fastened to handles of the same metal. In the antique classical period knife blades were made of bronze, iron and copper; the copper being hardened, probably by hammering. In ancient Rome bronze knives were reserved for religious rites. The hafts (handles) of this period are found in ivory, bone or bronze and of varying forms, sometimes the blades of these early knives folded into a groove in the handle. Some were carried in a sheath hung from the belt; the Gallo-Romanesque tombs furnish such, the exterior being of wood and the inside of iron. The ancient sacrificial knife often figures on carved monuments. While a few of the early Greeks used knives at meals, it was usual to serve the meat and other foods cut up, the guests picking up the viands with their fingers and tearing it up with their teeth. For cutting up fruit they used bone knives; they also knew the use of hunting knives. In the 1st century B.C. the Chinese used copper knives as coins, known as *Dau tsien*.

The Franks (Germanic tribes, about 240 A.D.) carried an iron knife suspended from the belt, often enclosed within the same sheath as the dagger. In the Middle Ages steel-bladed knives appear, toward the 14th century. Sheffield, England, was the centre of a steel industry and Langres, France, was renowned, as well as Moulins, already for their steel knives in 1427. By the 17th century the blades were often decorated with chased and gold inlaid designs. Knife handles of that period are found in ivory, bone, mother-of-pearl, silver, copper, steel, and wood. By the 16th century knife handles often assume the form of figurines or caryatids. During the Middle Ages one of the luxuries of the *seigneurs* consisted of having a table service of knives of which the handles varied according to the period of

the liturgical year; the ebony handles were reserved for the period of Lent, those of ivory for Easter. Knives were employed in battle the French termed them, in the 15th century *couteaux de brèche*. Knives figuring among the knights were often highly decorated; that of Louis le Bon (extant) has its handle of hard wood ornamented with bands of silver-gilt and enamels. On the handles were initials, ciphers the owners' coats-of-arms; enamel work, many precious stones vie with arabesques and engravings in the decoration. The knight's knife was generally in a sheath or scabbard. The knife sheath in Bamberg Castle dates back, probably to the 10th century and is, perhaps, the oldest extant; it is of ivory with metal ornamentation. The hunting knife of the Middle Ages (the *couteau de chasse* of the French) was a most elaborate equipment and consisted of a highly decorated sheath containing, besides the heavy-bladed huntsman's knife for killing the game and cutting it up, a set of smaller utensils arranged around it in the sheath. These latter were three small knives, a fork and a *bodkin*. In the sheath or case for use at table there were three knives: one large one called a *trencher* knife (*couteau à trancher*) for cutting into slices or pieces (*tranche*) of which the very large blade terminated in a crescent-shaped point with which to pick up the pieces and serve on the guests' plates; another large knife with two cutting edges; a smaller knife that was placed in front of the host. A favorite method of decorating leather sheaths in the 14th and 15th centuries was to burn or brand designs on the outside. In the refectories of the convents they used knives whose blades had engraved on one side the Benediction and on the other side "Dei Gratias" (*grace* after meals), the musical notes of the chant being cut into the metal. The oyster knife appeared as early as the 16th century. As to folding knives, after being already known to the Romans they probably never went out of use entirely; we read in an inventory of 1380 of "a little knife, of silver handle shaped like a lily, of which the blade folds back into the handle." Clasp or spring knives came into common use in middle of the 17th century. The large strong clasp knife is frequently termed a "Jack" knife; this kind of knife is said to have been introduced into England during the reign of James I (early 17th century) and to have received its name from this fact; it had no spring but the blade closed into the haft. See also CUTLERY.

CLEMENT W. COUMBI

KNIFE MONEY, a bronze currency in the form of knives long in use in China. These money knives were often highly ornamented and each bore on the blade hieroglyphical markings which indicated its value in the money market. The handle of the knife money was usually in the form of a disk in the centre of which there was a circular hole by means of which it was strung on a string with other similar money. See NUMISMATICS.

KNIGGE, Adolphus Francis Frederi Louis, BARON DE, German author: b. Bremenbeck, near Hanover, 16 Oct. 1752; d. Bremen 6 May 1796. In 1769 he went to the University of Göttingen, where he studied law, later became assessor at Cassel, in 1777 was made chamberlain at Weimar, and finally in 1791

ttled in Bremen. Here he joined the Illuminati (v.), and later became involved in the disputes relating to that secret order. Of his writings, the most widely read was his *Über den Umgang mit Menschen* (*Social Intercourse*, 1788) in which he set forth his philosophy of happy and useful living.

KNIGHT, nit, Austin Melvin, American naval officer: b. Ware, Mass., Dec. 16, 1854; d. Washington, D.C., Feb. 26, 1927. Graduated at Annapolis (1873) and commissioned ensign (1874), he was promoted through grades to rear admiral in 1911. In 1876 he was appointed to the Naval Academy, later serving on sea duty. In 1883 he was stationed at the Minneapolis ordnance proving grounds, and was in charge there in 1885-1889. He served in the North Atlantic, European and South Atlantic squadrons (1889-1892), and was again at the Naval Academy in 1892-1895. In the Spanish-American War he assisted in the blockade of the north coast of Cuba and in the Puerto Rican expedition, and in 1901-1903 commanded the *Yankton* on the survey of Cuba's south coast. He commanded on the *Washington* (1907-1909), later was commandant at Narragansett Bay Station, R. I., and in 1913-1917 was president of the Naval War College. In April 1917 he was appointed commander of the Asiatic Fleet, with the rank of full admiral. He was retired in December 1918.

KNIGHT, Charles, English editor and publisher: b. Windsor, England, March 15, 1791; d. Adlestone, May 9, 1873. He succeeded his father as a bookseller in Windsor, and for several years edited a Windsor newspaper. In 1823 he settled in London where he established *Knight's Quarterly Magazine* and superintended the publications of the Society for the Diffusion of Useful Knowledge, which included the *Library of Entertaining Knowledge*, the *Penny Magazine*, and the *Penny Cyclopaedia* (later remodeled as the *English Cyclopaedia*). He also published *The Pictorial Bible*, a *Pictorial History of England*, and (1837-1841) *The Pictorial Shakespeare*. The latter was edited by Knight himself and, both for its text and notes, took a high place among editions of Shakespeare. It went through many editions, and in the United States was published as *The Stratford Shakespeare* (1881). The most important of his own writings was the *Popular History of England* (1854-1861). His autobiography, *Passages of a Working Life During Half a Century*, was published in three volumes in 1864-1865.

KNIGHT, Charles Robert, American artist and author: b. Brooklyn, N. Y., Oct. 21, 1874; d. New York, N. Y., April 15, 1953. He studied at the Art Students' League and the Metropolitan Museum of Art in New York, and became noted for his paintings and models of early man and prehistoric animals and birds. He executed work for the United States government, the Carnegie Museum, Pittsburgh, and the American Museum of Natural History, New York. For the latter, and for the Field Museum, Chicago, and the Los Angeles Museum, he painted a series of murals. Especially fine are his bronze and stone sculptures of prehistoric animals. He wrote and illustrated *Before the Dawn of History* (1935); *Life Through the Ages* (1946); *Animal Anatomy and Psychology for the Artist and Layman* (1947); and *Prehistoric Man: the Great Adventurer* (1949).

KNIGHT, Daniel Ridgeway, American painter: b. Philadelphia, Pa., March 15, 1840; d. Paris, France, March 9, 1924. He studied at the Pennsylvania Academy of Fine Arts (1861-1863), and in 1872 went to Paris where he studied with Charles Gleyre and at the École des Beaux Arts. Four years later, after spending several months in Italy, he worked for a while at the Poissy studio of Jean Louis Meissonier. His work, which idealized the French peasantry, received honors in both Europe and America, and in 1909 the French government made him an officer of the Legion of Honor. His paintings in American galleries include *Hailing the Ferry* (Pennsylvania Academy); *The Shepherdess* (Brooklyn Institute Museum); *The Shearer* (Boston Museum of Fine Arts).

KNIGHT, Edward Henry, American mechanician: b. London, England, June 1, 1824; d. Bellefontaine, Ohio, Jan. 22, 1883. He studied both steel engraving and surgery in London, came to the United States in 1845, settled in Cincinnati, Ohio, where he studied law and became a patent attorney. Naturalized as a citizen in 1851, he served as a surgeon in relief work during the Civil War. In 1872-1876 he was connected with the United States Patent Office in Washington, D.C., and established and edited the *Official Gazette of the United States Patent Office*, a weekly digest of patents issued. He also devised the system of classification of inventions and the method of purchasing copies of patents by coupons. He himself received several patents, three on steam governors, one on a sewing machine guide, one on a process for molding articles from paper pulp, and others. He was in charge of the Patent Office exhibit at the Centennial Exhibition in Philadelphia (1876), and was an official American commissioner to the Universal Exposition at Paris, France, in 1878, where he was made a chevalier of the Legion of Honor in recognition of his work *The American Mechanical Dictionary* (1874-1876). A supplement, *Knight's New Mechanical Dictionary*, appeared in 1882-1884. He also wrote "A Study of the Savage Weapons at the Centennial Exhibition" for the *Annual Report of the Board of Regents of the Smithsonian Institution* (1879).

KNIGHT, Ellis Cornelia, English author: b. 1757; d. Paris, France, Dec. 17, 1837. Her father, Rear Admiral Sir Joseph Knight, died in 1775, and the next year she and her mother went to live in Italy, mostly in Rome and Naples. After her mother's death in 1799, she returned to England, and in 1805 was appointed companion to Queen Charlotte. In 1813 she was appointed to a similar position in the household of Princess Charlotte Augusta. Her autobiography is a valuable source of information for the court history of those days. Her principal work was *A Description of Latium, or La Campagna di Roma* (1805), with etchings by the author. She also wrote the romances *Dinarbas* (1790), *Flamminis* (1792), and *Sir Guy de Lusignan* (1833).

KNIGHT, Eric Mowbray, American novelist: b. Menston, Yorkshire, England, April 10, 1897; d. Surinam (Netherlands Guiana), Jan. 15, 1943. He came to the United States in 1912, and became a naturalized citizen in 1942. During World War I he served as a private in the Canadian Army. He became a major in the United States Army in 1942, and while on official mission

was killed in an airplane crash. He wrote *Song on Your Bugles* (1936); *The Flying Yorkshireman* (1937); *The Happy Land* (1940); *Lassie Come Home* (1940); *This Above All* (1941); *Sam Small Flies Again* (1942), and other books.

KNIGHT, George Wilson, English scholar and author: b. Sutton, England, Sept. 19, 1897. He was educated at Oxford University. From 1931 to 1940 he was Chancellors' Professor of English, Trinity College, the University of Toronto, Canada, where he also staged Shakespearian productions. Some of the best known of his numerous works are *The Wheel of Fire* (1930); *Principles of Shakespearian Production* (1936); *This Sceptred Isle* (1940); and *Hiroshima* (1946). In 1946 he became reader in English literature at Leeds University.

KNIGHT, Jonathan, American physician: b. Norwalk, Conn., Sept. 4, 1789; d. New Haven, Aug. 25, 1864. He was educated at Yale University, studied anatomy and physiology at the University of Pennsylvania, and was one of the founders of the Yale Medical School. In 1813 he became assistant professor of anatomy and physiology there, and in 1826 helped found the General Hospital Society of Connecticut. From 1838 he held the chair of surgery at Yale. He presided at the two national conventions (1846, 1847) at which the American Medical Association was organized, and served as its president from 1853.

KNIGHT, Joseph, English writer and editor: b. London, England, May 24, 1829; d. there, June 23, 1907. He was drama critic of the *London Gazette* (1860); of the *Athenaeum* (1867-1907); contributed to the *Gentlemen's Magazine* and was editor of its *Notes and Queries* (1883-1907). With the poet, Alfred Austin, he founded the Leeds Mechanics' Institute. He wrote *Life of Daniel Gabriel Rossetti* (1887); *Theatrical Notes* (1893); and *Life of David Garrick* (1894).

KNIGHT, Joseph Philip, English song writer: b. Bradford-on-Avon, England, July 26, 1812; d. Yarmouth, June 1, 1887. Among many other songs, he composed the famous *Rocked in the Cradle of the Deep* (1839) while on a visit to America.

KNIGHT, DAME Laura (nee JOHNSON), English painter: b. Long Eaton, England, 1877. She studied at the Nottingham School of Art and first exhibited in the Royal Academy in 1903. Her work has won wide recognition and received many awards. She was made a dame commander of the Order of the British Empire in 1929, and in 1936 was elected to membership in the Royal Academy of Arts. She is best known for her circus and theater subjects, and is represented in many museums, including the Tate Gallery, British Museum, and Victoria and Albert Museum, London; also the Art Institute, Chicago, and the Carnegie Institute, Pittsburgh. Her autobiography *Oil Paint and Grease Paint* was published in 1936.

KNIGHT, Richard Payne, English numismatist: b. Wormsley Grange, near Ludlow, England, 1750; d. London, April 23, 1824. He was privately educated, and in 1764 inherited his grandfather's estates at Downton, Herefordshire. About 1767 he visited Italy, also in 1777, and again in 1785.

During the latter visit he bought the antique bronze head, *Diomedes*, in Rome, the first of his notable collection of bronzes. He also collected coins, gems, drawings, and other antiques. From 1780 to 1806 he was a member of Parliament and for 10 years, 1814-1824, served as one of the trustees of the British Museum, to which he bequeathed his valuable collection of bronzes and Greek coins. In 1830 the trustees of the museum published his manuscript catalog of his coin collection; his manuscript catalog of his gems is in the museum's department of Greek and Roman antiquities. His numerous published works included *An Account of the Remains of the Worship of Priapus lately existing in Isernia* (1786); *An Analytical Essay on the Greek Alphabet* (1791); *An Analytical Inquiry into the Principles of Taste* (1808); *An Inquiry into the Symbolical Language of Ancient Art and Mythology* (1818).

KNIGHT, Sarah Kemble, American diarist: b. Boston, Mass., April 19, 1666; d. near New London, Conn., Sept. 25, 1727. Her father was Thomas Kemble, a merchant. Some time before 1689 she married Capt. Richard Knight, a shipmaster, of whom there is no record after 1706. In 1706-1713 she conducted a writing school at Boston in which Benjamin Franklin is said to have been a pupil, though he does not mention the school in his autobiography. She also served as a recorder of public documents and assisted in settling estates. By New England custom she was called Madam Knight as a token of respect. Her *Journal Kept on a Journey from Boston to New York in the Year 1704* is a valuable account of colonial customs and manners, and is also interesting for its humor, original orthography, and interspersed rhymes. It remained in manuscript until 1825, when it was published in New York, and was reprinted many times. Shortly after 1712 she moved to Connecticut to be near her married daughter, who lived in New London. Here and in Norwich she speculated in land, ran several farms, and kept a shop and an inn, accumulating a comfortable fortune.

KNIGHT, Thomas Andrew, English horticulturist: b. Wormsley Grange, near Ludlow, England, Aug. 12, 1759; d. London, May 11, 1838. He was a younger brother of Richard Payne Knight (q.v.). After graduating from Balliol College, Oxford, he settled at Elton near his brother's residence, Downton Castle, and began his experiments in raising new varieties of fruits and vegetables. He first came to public attention in 1795 through his papers on grafting and the inheritance of disease among fruit trees read before the Royal Society. Many of the new varieties of fruits and vegetables which he raised bear his name. He was one of the original members of the Horticultural Society, founded in 1804, and was its president from 1811 until his death. He was also a fellow of the Royal Society (1805), recipient of its Copley Medal (1806), and a fellow of the Linnaean Society (1807). Besides the papers he contributed to the *Transactions* of the Royal Society, and the more than 100 papers which he contributed to the *Transactions* of the Horticultural Society, he wrote *A Treatise on the Culture of the Apple and Pear, and on the Manufacture of Cider and Perry* (1797); *Pomona Herefordiana, or Natural History of the Old Cider and Perry Fruits of the County of Hereford* (1811). A selection from the *Physiological and Horticultural*

'papers' of the late T. A. Knight was published in 1841 (G. Bentham and J. Lindley, editors), together with a biographical sketch of his life. Consult Royal Society of London, Proceedings, Vol. IV, p. 92, London 1838.

KNIGHT, William Angus, Scottish philosopher and author; b. Mordington, Scotland, 2 Feb. 1836; d. 4 March 1916. He was educated at the University of Edinburgh, and from 1876-1902 was professor of moral philosophy at the University of Saint Andrews. He was widely known as a student of Wordsworth, whose works he edited in 12 volumes (1896-1917). Among his own writings may be cited 'Studies in Philosophy and Literature' (1879); 'Essays in Philosophy, Old and New' (1890); 'The English Lake District as Interpreted in the Poems of Wordsworth' (1878-91); 'Through the Wordsworth Country' (1892); 'Memorials of Thomas Davidson' (1907); 'The Glamour of Oxford' (1911); 'Pro Patria et Rege' (war poems, 1915).

KNIGHT. The word is said to be derived from the Anglo-Saxon Cniht, a servant, one who serves. Hence in feudal times it was used for certain persons doing service to a superior lord or the king, the same as *duke* expressed leadership. As to our knowledge of the origin of the knightly status we must go back as far as the foundation of Rome. Among the early Romans the mounted warriors (*equites*) held a certain special position socially. Its origin has been placed with Romulus who is said (about 750 B.C.) to have made of the three patrician tribes—Ramnes (Latins), Taties (Sabines) and Luceres (Etruscans)—three centuries (300) of riders in war service. Under the kings this number was raised to six, later, by additions of plebeians raising the rank to eight and forming the basis of a special order (*ordo equester*) adapted for cavalry. As the service entailed no extra expense the standing of this body of armed riders was raised above that of citizenship. By law of Roscius (267 B.C.) the condition was imposed of owning a fortune 4,000,000 sesterces. The external badge on the campaign uniform of this body of cavalry was a narrow stripe on the tunic, also the distinction of wearing a gold ring and having special seats in the theatre and circus, besides other political and social features. Under the Cæsars this order of riders (*equester*) was drawn on for imperial officials, to carry on the financial rule of the provinces, etc.

During the Saxon heptarchy, in England, the order of knighthood was conferred by a priest at the altar, Athelstan (900 A.D.) being the first king to create a knight. The receiving of arms at the arrival of the age of manhood was from the days of the Germanic hordes accompanied by a solemn ceremonial, and the candidate to wear arms had to prove fitness in capacity. By the 11th century the ceremony of investiture of arms had become general. Under the feudal laws some tenants and the holders of lands free from rent or service (*modial*) had to be ready on call to serve their lord or king on horseback and wearing a coat of mail. (See CHAIN ARMOR). They were called *ballarii*, from whence the French term *chevalier* is derived. And we now read of a knight's fee in England, or the *feudum loripii*, *fief de haubert* (coat of mail) being "a

certain value of land"; these vassals, we are told, were "serving as knights, mounted and equipped."

The origin of the knight of chivalry is one involved in the history of morals of the European nations—the institution of chivalry. The knighthood of chivalry is an independent and voluntary service. The obligation of the landowner to service of knight in arms did not extend to the rest of the family except the heir. The younger sons ambitious of gaining glory and dignity as knights had to submit their military service to some wealthy lord in the hope of gaining an income by their prowess as well as that social distinction which was theirs by birth, and from this field of achieved personal ambition arose a social advance in which the voluntary seeker of fame in arms raised himself a step higher in the social scale than the knight by legal right regardless of merit or valor in the field. These were the first knights of chivalry. The Crusades increased the number and ranks of these hired knights and at the same time altered and advanced the status of chivalry itself. While the ritual of investing the hired officer with knighthood included such mandates as oaths of fidelity and honor, as well as gallantry and protection to women over and beyond the former claim to discipline demanded of the common soldier (*milites*), this act of crusading for the capture of Jerusalem and the Holy Land introduced a religious feature that did not before enter into the realm of knighthood's services. And we read of the applicant for knighthood first confessing his sins before the priest, spending nights in prayer and passing through pious rites before receiving his titular rank. And the order was conferred on him by a priest instead of being "dubbed" by a knight. Chivalry had become a religious institution and the crusading knight of the 12th century was the militant bearer of the Cross and protector of his Church. Gallantry and protection of the fair sex became a living force among the knights and at tournaments the ladies took a prominent and distinguished part. And we now arrive at the time when the following were the qualifications of a deserving knight: Great respect for the female and three other virtues were enjoined on knighthood, namely, loyalty, courtesy and munificence.

The first of these three virtues included, as paramount, fidelity to engagements, and these engagements were the feudal obligation to superiors and keeping of every promise, besides fidelity to one's lady love. Any breach of engagement was looked upon and condemned with such epithets as: "False, perjured, disloyal, recreant." It forbade the savage instinct to treachery. The knight who perpetrated an offense against this virtue was considered unfit to bear the title of knight. The virtue of courtesy was the display of "modesty, self-denial and respect for others," and included chivalric treatment of prisoners. Under the term munificence was intended the behest of liberality and hospitality to the visitor, freedom in the use of coin to recompense the traveling minstrel, *largesse* to the poor, and financial aid to relatives in need. Besides the qualification of valor in the knight a fixed purpose of enforcing justice and redress of wrongs was

strongly inculcated. In return for his vows of renunciation of vices the knight received numerous privileges. These were the right to wear distinctive and resplendent armor-crested helm, heavy armor displaying his heraldic bearings, spurs of gold, etc. His horse was gay in its bards (see BARDS) and gaudy "housings." In his castle or palace he was permitted the dignity of wearing scarlet robes. Certain civil offices were filled by members of the order. He had the power (to be used not lightly) of conferring knighthood on others (if *gentlemen*). There were class distinctions of knighthood such as knights bannerets and bachelors. The former belonged to those having large estates and able to summon a certain number of lances for battle. A squire carried his master's sign of distinction in the form of a *banner* on the end of a lance. The knight bachelor was permitted to carry only a pointed pennant.

But the above high moral plane of action in the knight's life code, though acting as an incentive to good work and restraint from evil, did not prevent abuse of power from entering the valorous rank. The very elevation of rank entailed a sense of degradation of those beneath. It was but human that this breach extended and cases increased in which the populace received disdainful treatment while some members became more and more haughty. Such irregularities or abuses tended to bring the orders into disfavor. The Knights Templar, a religious and military order for the protection of Christians in the Holy Land, which flourished during the Crusades, became very wealthy and corrupt. Their excesses impaired the name of chivalry and brought retribution. But the cause of the decline and fall of the institution of chivalry's knighthood is placed by some authorities as brought about by the French kings Charles VI and Charles VII bestowing the order of knighthood profusely, and the act of Francis I conferring knighthood on lawyers and other classes of civilians. The efficiency of gunpowder in rendering armor useless, however, is generally accepted as the chief cause of the extinction of the order of knighthood. (For the literature and legends of knighthood, see also CHIVALRY, ROMANCE.) Miguel de Cervantes' *Don Quixote*, published in 1605, ridiculed the dying traditions, and the 16th and 17th centuries saw the displacement of knights by gentlemen and cavaliers. By the 16th century we find the honor of knighthood conferred by the sovereign as a civil more than military honor, as reward for services to state or ruler. And with more peaceful times have arisen numerous orders or fraternities in the social and commercial world utilizing the title, such as the Knights of Columbus, Knights of Labor, etc.

The term knight is applied to a certain piece in the game of chess which is identified by a horse's head; it moves either backward or forward over two squares, one straight and the other diagonal.

In modern England the title of knight is not hereditary, and it ranks below the lowest hereditary title, that of baronet. (See TITLES.) It is given by the king for distinguished service, often in politics, science, literature, or the arts. A knight is called sir, for example, Sir Arthur Sullivan. His wife is Lady Sullivan. A corresponding title, dame, is given to distinguished women, such as Dame Sybil Thorndike. See also BATH, KNIGHTS OF THE; GARTER, ORDER OF THE.

Bibliography.—Gautier, Léon Emile Théodore, *La Chevalerie* (Paris 1890); Hallam, Henry, *View of the State of Europe during the Middle Ages* (London 1901); James, George Payne Rainsford, *The History of Chivalry* (New York 1835); Weber, Karl Julius, *Das Ritterwesen und die Templer, Johanniter und Marianer* (Stuttgart 1835); Prestage, Edgar, *Chivalry* (New York 1928).

KNIGHT OF THE BURNING PESTLE, a comedy by Francis Beaumont and John Fletcher printed in 1613. It is at once a satire of knighthood, a parody of Thomas Heywood's *The Four Prentices of London*, and a comedy of manners. It is the first English parody play. There are two plots, the real one involving a triangle, and the other an artificial device of a Grocer Errant.

KNIGHT OF THE RUEFUL COUNTERTENANCE. See DON QUIXOTE.

KNIGHT OF THE SWAN, a figure in an ancient Teutonic legend, whose story was adapted by Richard Wagner in his opera *LOHENGRIN* (q.v.).

KNIGHTS OF COLUMBUS is a fraternal benefit society of Catholic men, chartered by the General Assembly of the State of Connecticut, March 29, 1882. Its headquarters are located in New Haven, Conn. The membership (1949) was 768,141 in 2,848 subordinate councils in the United States, Puerto Rico, Alaska, Philippine Islands, Cuba, Mexico, and Canada. The society provides 12 plans of insurance for its members and their families. At the end of 1940 insurance in force amounted to \$355,754,661 and assets were \$73,220,430.

The purposes of the society, as stated in its charter, are: (1) to provide for financial aid to its members and their beneficiaries; (2) to assist sick and disabled members; (3) to promote social and intellectual association among its members; (4) to promote and conduct educational, charitable, religious, social, and patriotic activities. A leisure-time program for boys of the ages 14 to 18 is conducted through an organization known as the Columbian Squires. A comprehensive program against subversive activities is a major project of the society, whose ideals are charity, unity, fraternity, and patriotism.

Among numerous contributions to education are an endowment fund of \$500,000 for graduate scholarships at the Catholic University of America and the endowment of a chair of American history there. State and subordinate councils have established scholarships at many colleges and academies. The fourth degree regularly conducts essay contests on phases of American history. In 1944 the supreme council established an educational trust fund of \$1,000,000 to provide a Catholic college education for the sons and daughters of Knights of Columbus who might either lose their lives in the armed forces during World War II or die or become totally disabled, within a specified period, as a result of military service. Sixteen students, holding scholarships which cover all expenses of a college course, were enrolled in 1950 under the terms of the trust.

In 1948 the society inaugurated a program of advertising Catholic doctrine and practice by space in secular magazines of large circulation. The advertisements invite inquiries and offer free booklets as well as courses of instruction by mail.

The official organ of the Knights of Columbus is *Columbia*, published monthly at the society's own printing plant.

KNIGHT



French, 9th century



French, 11th century



French, 12th century



English, 13th century



French, 14th century



German, 14th century



French, 14th century



French, 15th century



English, 15th century



English, mid-16th century



English, late 16th century



English, late 16th century



English, late 16th century



English, 17th century



English, mid-17th century



French, late 17th century



French, late 17th century



KNIGHTS AND NOBLEWOMEN, 9th-17th CENTURIES

KNIGHTS OF LABOR, American labor organization which dominated the labor movement in the United States from 1877 to 1887. Founded in Philadelphia, Pa., in 1869 by Uriah S. Stephens (q.v.), the Noble and Holy Order of the Knights of Labor (full name adopted in 1871) was established as a secret organization for the protection of its members against any form of persecution by employers.

The order espoused a wide range of objectives during its half century of existence. It sought the long run to organize "every department of ductive industry," but its immediate goal was to employ "organized effort and cooperation" to gain and retain both employment and just remuneration for its members. The Knights also ported a program calling for the establishment of producers and distributors cooperatives.

In the area of specific objectives, the order ght for the adoption of: industrial safety measures, a weekly pay law, a mechanic's lien law, al pay for both sexes for equal work, an eight-hour workday, and arbitration (discussion and references) instead of strikes, although one of first actions was to create a strike fund. The order also favored public ownership of utilities and demanded establishment of federal and state reaus of labor statistics. The Knights also ove for the abolition of child labor under the e of 14; of the contract system, in connection th which it forced the passage of the Contract bor Act of 1885 forbidding the importation of en contract laborers; and of the leasing out of nvicts.

During its first decade, growth of the organization was slow. By the end of 1873 there were ly some 80 local assemblies, chiefly located in hiladelphia and its vicinity. Although the order read, membership remained under 10,000 persons / 1879. In 1878, Stephens resigned and was eceeded as master workman by Terence V. owderly (q.v.). In the same year the order ook on a national character and adopted a rogram of all-inclusive unionism to supplement s previous craft-union emphasis. In 1881 the rder dropped "Noble and Holy" from its name, ast off its religious trappings, altered its ritual, nd eliminated its oath of secrecy. Membership continued to exclude, interestingly, lawyers, bankers, professional gamblers, stockbrokers, physicians (until 1881), and persons making their iving from the sale of intoxicants. Membership was not restrictive, however, on grounds of racial rigin, religion, or sex. The Knights were the first general labor body to encourage the organiza-tion of women.

Within a few years the Knights of Labor developed into the most imposing labor organization known up to that time in the United States. Its membership, rising spectacularly from 51,914 in 1883 to 702,924 by 1886, was in July of the latter year organized into 5,892 locals, including about 200 women's units. Over half of the members were distributed as follows: 110,000 in New York State (60,809 in New York City); 95,000 in Pennsylvania; 90,000 in Massachusetts (81,191 in Boston); and 32,000 in Illinois.

Opposed in principle to the calling of strikes, the order nevertheless was forced to respond to pressures from its members for such activity. Moreover, increased membership rode on the heels of successful strikes against the Union Pacific system in 1884 and of successful negotiations with Jay Gould's system in 1885, after actions against

the Missouri; Missouri Pacific; Kansas and Texas; and the Wabash railroads.

After reaching its zenith in mid-1886 the Knights of Labor began to lose strength rapidly. Contributing significantly to its decline were a series of strike failures in mid-1886 and the Haymarket Square Riot (q.v.). The latter was used by newspapers and employers to discredit the Knights even though they had no connection with it. Other factors in the order's demise were the increased vigor of employers' attacks, particularly their effective use of the blacklist; the interference of court actions; and the successful inroads made on its membership by ascendant craft unions, particularly the American Federation of Labor (q.v.). Additionally, the Knights of Labor suffered from internal weaknesses with respect to both structure and function, from confusion over vague and sometimes conflicting objectives, and from ineffectiveness in resisting the efforts of local craft unions to gain control. Also the Knights' ventures into producers cooperatives tended to dissipate the organization's energies. Although they later failed, some 200 cooperatives, particularly in mining and shoe manufacturing, emerged under the aegis of the Knights.

Even though the Knights persisted as an organization well into the 20th century, the order's importance was gone by 1893, when membership had dropped to 74,635. In that year, Powderly was ousted by socialist and farm groups led by James R. Sovereign, who became master workman, and by Daniel De Leon. Later, the bulk of the Knights filtered into the American Federation of Labor and other craft unions. The Knights of Labor persisted in negligible strength, but in 1917, under John W. Hayes, its last master workman, officially ended its formal organization. See also LABOR MOVEMENT IN AMERICA—*The Knights of Labor*.

Bibliography.—Powderly, Terence V., *Thirty Years of Labor, 1859-1889* (Columbus, Ohio, 1889); Commons, John R., and associates, *The History of Labor in the United States*, 2 vols. (New York 1918); Ware, Norman, *The Labor Movement in the United States, 1860-1895* (New York 1929); Dulles, Foster R., *Labor in America: A History* (New York 1949); Browne, Henry J., *The Catholic Church and the Knights of Labor* (Washington, D.C., 1949).

KNIGHTS OF MALTA. See JOHN, ORDER OF SAINT; ORDERS AND DECORATIONS.

KNIGHTS OF PYTHIAS, social and fraternal order founded in Washington, D.C., Feb. 19, 1864, and embracing more than 3,000 subordinate lodges in the United States and Canada. The organization's basic principles are friendship, charity, and benevolence, and its lessons and ritual are based on the familiar story of the friendship of Damon and Pythias (see DAMON AND PHINTIAS).

The order had its beginnings during the Civil War at a time when its founder, Justus H. Rathbone, believed the new organization might do much to heal the wounds and allay the hatreds caused by the conflict then raging. On being informed of the content of the order's ritual and teachings, President Lincoln advised the organization to apply to the United States Congress for a charter and establish itself nationally. Eventually, by congressional enactment of May 5, 1870, the supreme lodge of the Knights of Pythias was incorporated (effective August 5), and the Knights thereby became the first fraternal order to be so chartered.

Organizationally the Knights of Pythias comprises a supreme lodge, having jurisdiction over the so-called "supreme domain" and over the local lodges; 55 grand lodges, having secondary jurisdiction over the lodges in the states, provinces, and other areas—all of which constitute the grand domain; and more than 3,000 subordinate or local lodges.

The Knights of Pythias maintains a military department and has several recognized auxiliaries. These are the Pythian Sisters (organized 1888), with its junior organization, the Sunshine Girls, open to women and girls related to Pythians by blood or marriage; the Dramatic Order Knights of Khorassan (organized 1895 and congressionally chartered in 1908), whose governing body is known as the Imperial Palace; the Nomads of Avrudaka, an auxiliary of the Khorassan; and the Junior Order Princes of Syracuse (organized 1923), for young men between 14 and 21.

Among its benevolent activities the Knights of Pythias maintains homes for children and for the aged, operates children's vacation camps, supports special facilities for higher education, and contributes to the hospitalization and care of the needy.

KNIGHTS OF SAINT CRISPIN, Order of the, secret early American shoemakers' union. After establishment of its first active lodge in Milwaukee, Wis., on May 7, 1867, the order spread to Massachusetts and other shoe-manufacturing states. In 1868, when the first International Grand Lodge meeting was held at Rochester, N. Y., there were some 600 chapters, and by 1870, membership had reached 50,000.

Major aims of the order were the assurance, in the immediate present, of steady employment and fair wages for its members, and, for the future, "self-employment." The organization also fought vigorously against mechanization of the shoe industry. Although successful in a series of strikes in 1869-1870, the St. Crispins were later so consistently defeated in strike efforts that they had virtually disappeared by the end of 1874. Other factors contributing to their decline were untrustworthy leadership and the order's interference in politics. Following a revival attempt in 1875, the order again folded in 1878, its membership drifting into the Knights of Labor (q.v.) to become that organization's largest trade element.

Consult Lescohier, Don D., *The Knights of St. Crispin, 1867-74* (Madison, Wis., 1910).

KNIGHTS OF THE CROSS, *The*, a massive historical novel by Henryk Sienkiewicz (q.v.) dealing with the struggle of the Poles against the Order of the Teutonic Knights, which culminated in the victory in 1410 of the Poles and their Lithuanian allies at the Battle of Grunwald (Tannenberg), vividly described by the author. The hero of the novel is Zbyszko, a giant Polish soldier, and much of the novel's emotional appeal centers around the misfortunes and death of his young wife, Danusia, and of Yurand, her father. Published in Warsaw in 1898, the novel appeared in English in a two-volume translation by Jeremiah Curtin (Boston 1900).

KNIGHTS OF THE GOLDEN CIRCLE, secret, proslavery, and (later) pro-secession society operating in the United States during

the 1850's and 1860's, whose membership was for the most part subsequently absorbed into the Order of American Knights and the Sons of Liberty.

The Knights of the Golden Circle was organized by Northern sympathizers for the South (see ANTIWAR DEMOCRATS) in imitation of a number of Southern Rights clubs (some bearing the identical name) which had sprung up in the South in 1852-1855. The first "castle" or local branch of the Northern society was founded in Cincinnati, Ohio, in 1854, under the leadership of Dr. George W. L. Bickley. Other units cropped up in Indiana, Illinois, Iowa, Ohio, Missouri, Kentucky, Michigan, and western Pennsylvania under such names as The Circle of Honor, The Knights of the Mighty Host, and the Corps de Belgique. An early goal of the society's military branch, the so-called American Legion, was to set up a great Southern slave empire surrounding the Gulf of Mexico (hence, Golden Circle) but after the order lost enthusiasm for that project, it shifted its attention (by 1860) to promoting secession sentiment in the Gulf and border states.

Beginning in the spring of 1863, most of the society's members transferred to the Order of American Knights, a similar group which had emerged in St. Louis, Mo., under the leadership of Phineas C. Wright, supreme commander. The new society spread to Illinois, Indiana, and other Midwestern sections where the Golden Circle had been active, and to New York and several eastern states.

At a national meeting in New York City on Feb. 22, 1864, the order changed its name to Sons of Liberty and made Clement L. Vallandigham (q.v.) supreme commander. With peak membership estimated at between 200,000 and 300,000, the Sons achieved minor local successes in discouraging enlistments in the Northern armies, in encouraging resistance to the draft, and in shielding soldiers deserting from the Union armies.

The most ambitious project of the society was the so-called Northwest Conspiracy, a plan by which a number of state governments, including those of Illinois, Indiana, Ohio, and Missouri, were to be seized and organized into a Northwestern Confederacy. The plot hardly got beyond preliminary stages, although Southern intriguers actually provided \$500,000 to finance the insurrection. After several postponements of the date set for the uprising, the project collapsed. Meanwhile, other activities of the Sons of Liberty faded as mounting victories by the Northern armies made their objectives meaningless, and as arrests of its members and raids conducted against its headquarters in Kentucky, Missouri, and Indiana, broke the order's strength. The Sons of Liberty dissolved soon after 1864.

Consult Gray, Wood, *The Hidden Civil War, the Story of the Copperheads* (New York 1942).

KNIGHTS OF THE GOLDEN EAGLE a beneficial and fraternal organization founded in Baltimore, Md., on Feb. 6, 1873. The order comprises some 150 member groups scattered throughout the United States and having about 20,000 members. Its male adherents are known as Sir Knights, and members of the women branch are addressed as Companions. The organization's collective motto is "Fidelity, Valor and Honor for Males, and Faith, Hope and Charity for

or Females." The society's teachings are derived from the history of the Crusades, and its ritual is semimilitaristic in character.

Membership is open generally to white persons of at least 16 years of age who are sound of body, possess good moral character, profess faith in Christianity, and who are competent to pursue a useful and lawful occupation. The order has a program of mutual assistance in illness and distress, and provides death benefits and weekly sickness benefits.

KNIGHTS OF THE GOLDEN HORSESHOE, a term humorously applied to themselves by a dozen Virginia gentlemen who participated in an expedition in the summer of 1716. Led by Gov. Alexander Spotswood (q.v.) and accompanied by 14 rangers, 4 Indians, and a number of servants, the troupe left Williamsburg on horseback on August 29 and, pushing into the back country, followed a route to the north and west through what is now Spotsylvania County. After reaching the summit of the Blue Ridge Mountains by September 5, the Virginians returned to Williamsburg to complete, without any notable hardship, their 28-day, 438-mile excursion. Their reports of the trip resulted eventually in promoting the settlement of the Shenandoah Valley.

(consult Bruce, Philip A., *The Virginia Plutarch*, Vol. I, pp. 128-132 (Chapel Hill, N.C., 1929).

KNIGHTS OF THE MACCABEES OF THE WORLD. See MACCABEES, THE.

KNIGHTS OF THE MODERN MACCABEES. See MACCABEES, THE.

KNIGHTS OF THE ROUND TABLE, term descriptive of those knights who had places King Arthur's round banquet table, which was signed, according to some versions of Arthurian legend, to prevent jealousy over seating precedence, or, as explained in other sources, to symbolize the equality of the knights. Sir Thomas Mallory's *Le Mort d'Arthur* (1485), the first full account in English of the Arthurian cycle of legends, claims that 130 knights originally had places at the round table and that there were 20 vacancies for those who might prove worthy. In other accounts, the number of knights ranges to as high as 1,600, but generally only those knights of most conspicuous importance have come to be regarded as comprising the Knights of the Round Table. These have included Lancelot (see LANCELOT OF THE LAKE), Tristan (q.v.) or Tristram, Lancelot, Bors, Pelleas, Percivale (Percival), or Bedivere (q.v.). In Tennyson's *Idylls of the King* (q.v.), the Knights of the Round Table are indicated as Lancelot, Lohkesh, Bors, Pelleas, Percivale, Modred, Tristram, Gareth, Geraint, Balan, and Gawain. See also ARTHURIAN ROMANCES; MORTE D'ARTHUR.

KNIGHTS OF THE WHITE CAMELIA, a short-lived secret organization which arose in the South contemporaneously with the Ku Klux Klan (q.v.) and which was similarly organized to maintain white supremacy in face of the threats of radical reconstructionists during the early post-Civil War years. The order grew out of a so-called White Man's Club organized in May 1867 at Franklin, La., of which a branch

and then national headquarters were established in New Orleans. Within a short time, the Knights of the White Camelia, which held its first general convention in 1868, had gained nearly all the Democratic voters of Louisiana as members.

Developing an interstate organization with councils representing state, county, and local levels, the society spread into Texas and Arkansas, across southern Mississippi, Alabama, and Georgia, and into portions of other Southern states. Along with the Ku Klux Klan and similar organizations, the White Camelias were dissolved in the early 1870's.

(consult Horn, Stanley F., *Invisible Empire: The Story of the Ku Klux Klan 1866-1871* (Boston 1939).

KNIGHTS TEMPLAR, one of the orders appendant to the Masonic Fraternity (q.v.) and the highest of the "York Rite." The Knights Templar occupies a somewhat anomalous position as a military-Christian order in a symbolic, architectural, nonsectarian system, and offers an almost inexhaustible collection of legend and myth, supposedly tracing its origin to the dispersed knights of the Poor Fellow Soldiers of the Temple of Solomon or the Order of the Temple founded in 1118 A.D. and suppressed in 1307-1313 A.D. The theories tracing the fugitive knights to sanctuary in the lodges of Freemasons of Scotland and England are abundant and baffling, and the hiatus of over 400 years between the martyrdom of their last grand master, Jacques de Molay (q.v.), in 1314 and the first appearance of the modern order in the third quarter of the 18th century reduces such stories to mere fancy, characteristic of like tales respecting other phases of Freemasonry.

The modern order is undoubtedly an English adaptation of the Rose Croix and Kadosh degrees of the French Hauts Grades, which sprang up about 1738 A.D. The first preserved account of the working of the degree is contained in the minutes of St. Andrew's Royal Arch Lodge at Boston, Mass., for Aug. 28, 1769.

The order has attained its greatest development in the United States under the Grand Encampment, organized in 1816, and under grand commanderies in most of the states. There are some 1,700 commanderies and over 460,000 members. The order also exists in modified form in Great Britain, Ireland, and Canada.

KNIGHTSTOWN, town, Indiana, situated in Henry County on the Big Blue River about 34 miles east of Indianapolis. Served by the Pennsylvania and New York Central railways, it is essentially a trading center for an agricultural area which raises principally corn, wheat, and hogs. It also has nurseries, manufactures furniture, car bodies, and fencing, and processes canned goods. The State Soldiers' and Sailors' Children's Home (1868) is located nearby. The town was first settled in 1825 and was incorporated two years later. Pop. (1950) 2,486.

KNILLE, K'nillë, Otto, German painter: b. Osnabrück, Germany, Sept. 10, 1832; d. Meran, Austria (now Merano, Italy), April 7, 1898. He studied until 1856 at the Düsseldorf Academy of Art and then in Paris. In 1865 he was commissioned to execute frescoes for the Castle of Marienburg, near Hildesheim, following which he created *Tannhäuser und Venus* (1873), ob-

tained by the Berlin National Gallery, and four frieze paintings (1875–1884) for the Berlin University library. In 1874 he was appointed professor at the Berlin Academy of Art. He later published *Grübeln eines Malers über seine Kunst* (1887) and *Wollen und Können in der Malerei* (1897).

KNIN, k'nin, town and district, Yugoslavia, located along the Kerka or Krka (ancient Titius) River in Croatia. Lying westward of the Dinaric Alps, Knin is a trading center served by a railway extending southward from Zagreb, from which it is some 130 miles distant. Of interest as the former capital of medieval Croatia, the town and its environs have a number of old castles and churches and a Franciscan monastery. Pop. (1953) of Knin district, 18,100.

KNIPPER, k'nip'ēr, Lev Konstantinovich, Russian composer; b. Tiflis, Russia, Dec. 16, 1898. After a musically precocious childhood, he spent five years in the Russian Far Eastern Army before studying music in Berlin and Freiburg, and at the Gnessin School of Music in Moscow.

His first work, a symphonic poem entitled *The Legend of a Plastic God*, was written in 1924 and was followed by his first (1927) and second (1932) symphonies; the ballet *Satanella* (1924); and his first important work, the opera *North Wind*, produced in Moscow on March 30, 1930. His *Lyrical Suite* (1928) was performed at Oxford, England, in 1931. Meanwhile he completed an intensive study of Tadzhikistan folklore, whose themes he interpreted in *Five Tadzhik Songs* (1933), the orchestral suite *Vanch* (1931), and *Five Tadzhik Dances* (1933). He later served as a music instructor in the Red Army, to which he dedicated *To the Far Eastern Army* (1932–1933) and *Poem of the Komsomol Fighters* (1933–1934). These third and fifth symphonies, as well as his fourth (1933–1934), contain mass battle songs, a genre for which Knipper is best known, and include the famous *Song of the Cavalry of the Steppes*. In the period of World War II, he completed two preludes on Iranian themes during a visit to Iran in 1941, *A Poem to Horses* (1942), a choral and orchestral work, a violin concert (1942), and his eighth symphony (1943).

Consult Abraham, Gerald, *Eight Soviet Composers* (London 1943), pp. 52–60.

KNITTELFELD, k'nit'ēl-fēlt, city, Austria, located on the Mur River in Styria Province. A link in the railroad extending southwest from Bruck, about 25 miles distant, to Klagenfurt, Knittelfeld was bombed during World War II because of its iron and steel works and its railroad shops. Pop. (1951) 13,143.

KNITTING, the art of constructing textile fabric by means of needles. Knitted fabric is composed of loops assembled in the form of interconnected vertical chains of loops called wales. The joining of loops by drawing one through another constitutes a stitch. A horizontal chain of loops is referred to as a course. The path of one course as it moves from one loop to another makes a row of inverted loops (known as sinker loops) much like the upright needle loops. In weft- or filling-knit cloths, the yarn follows a horizontal path across the fabric, while in warp-knitted fabrics, the yarn follows a path in the direction of the wales.

Early History.—The earliest known knitted fabric has been traced to ancient Egyptian times. Sir William F. Petrie, the English Egyptologist, found a pair of thick hand-knitted wool socks in a tomb which probably dated back to the 4th century B.C. Knitting by hand apparently did not come into popular use, however, until the late 14th and the 15th centuries in Scotland and England.

The first machine devised for knitting was the stocking frame invented in 1589 by Reverend William Lee (q.v.) of Calverton, England. Its mechanical principles have remained basic to subsequent knitting machines. The English government, however, refused to grant Lee a patent because it feared that the use of such a machine would force many hand knitters out of work. As a consequence, machine knitting did not flourish until about 1750. Other inventors improved on Lee's original machine. In 1745, an Irishman of Dublin invented the truck/presser, which extended the variety of patterns which could be produced on the knitting machine. In 1758, the rib stitch was first made on a frame by Jedediah Strutt of Derby, England, and in 1816, Marc I. Brunel (q.v.) devised a circular knitting machine, which produced a tubular fabric. Matthew Townsend of Leicester, England, in 1847 invented the latch needle, which made cheaper knitting possible and thereby served as a major impetus to the knitting industry.

In 1832 the first power-driven knitting machine was made in Cohoes, N. Y., which led to the birth of the vast knitting industry in the United States. The Cohoes mills virtually became the training center for the industry's pioneers. About 1845, knit-goods men from Cohoes, responding to the increased demand for knitted undergarments, began seeking mill sites elsewhere, and the industry gradually spread throughout the Mohawk Valley and to other sections of the country. In the century which followed, knitting expanded to become one of the leading branches of the textile industry. This evolution resulted mainly from the desire of mankind for the qualities found in knitted goods. Knitted goods are warmer than woven goods of comparable weight and are more absorbent, fit comfortably, and are durable because their fabric yields to the movements of the wearer.

HAND KNITTING

Not much is known concerning the origin of hand knitting, although it may have first been done on the four fingers of the left hand or a series of pegs arranged either in a row or a circle. However, two definite systems of hand knitting eventually evolved. The one which became by far the more popular was by means of two or more rods known as knitting pins; needles; the other was by knitting on pegs placed either in a single or double row or in a circle.

Hand knitting continues to flourish even though it is a slow operation in which the knitter must be satisfied to produce a hundred loops per minute, as compared with a million loops produced by a machine operator. However, machine knitters have much to learn from hand knitters concerning knitting structure and loop manipulation and design and color.

As a rule, hand-knitted articles do not enter world commerce. In most cases the products are made in homes for use within the household. Such articles include dresses, sweaters, shawl

ocks, caps, baby blankets, gloves, mittens, and hats. Among the millions of pounds of yarn annually knitted by hand are large quantities of wool, cotton, and nylon and other synthetics. Tub yarns, such as ratiné, as well as bouclé yarns, are also used.

Hand knitting is practiced with steel or plastic needles. The average knitter uses two for each work, with the stitches on one needle being removed and then worked into new loops formed by the other needle. For fabric which is to be tubular in shape, such as a sock, three or four needles are employed. For tubular fabric of large diameter, a flexible circular needle is often conveniently used.

If the practice of hand knitting is considered to include operators of hand-knitting machines, then the field is a considerable one. In certain sections of the United States, small establishments are equipped with hand-operated frames of the Lamb or V-bed type. These produce the lighter-weight types of children's and women's sweaters.

Hand-machine knitting is widely practiced in Europe. When machines of the "links and links" and V-bed types are operated by skillful craftsmen, they are capable of turning out fashioned articles of clothing which automatic machines cannot entirely duplicate.

MACHINE KNITTING

Machine knitting is organized around five major knitting systems. These are plain or jersey knitting, and rib, purl, interlock, and warp knitting.

Plain Knitting.—The most common form of machine knitting is plain knitting, also known as flat or jersey knitting. This is accomplished with a single bank of needles arranged in a cylinder or dial, or in a linear disposition in a needle plate. The important feature of the plain knitter is that all its needles are spaced side by side and receive the knitting yarn while acting in the same direction. The needles may be of the spring or bearded type or of the latch type. The type of needle used does not affect the appearance of the fabric, provided that the needles are of the same degree of fineness, although in some cases, ring needle-made fabric may be superior in elasticity.

In plain knitting the needles are retained in grooves cut into the cylinder walls or needle plates. They are moved by cams acting on the needle butts. The spacing of the needles is referred to as the "gauge" or "cut" of the machine. The term gauge, as applied to many flat machines and to some circular ones, refers to the number of needles in one and one half inches. A 60-gauge machine would thus have 40 needles per inch. The term cut, applying to both circular and flat machines which have the needles slidably and adjustably mounted, refers to the number of needles occupying one inch in the cylinder.

Needles are also operated en masse. In a machine embodying this operation all the needles are mounted rigidly in a needle bar and are moved upward and downward together. This method is employed in knitting full-fashioned hosiery and sweaters, and in warp knitting. The original knitting machine was fitted with a spring or bearded needles placed in a mold in which molten lead was poured and then solidified around the butt portions of the needles. In modern tricot-knitting machines, three needles

are used in a single lead. Raschel machines are generally fitted with latch needles, a full inch of needles being placed in the mold and cast together. The molten metal used is an alloy of lead, antimony, and tin.

Rib Knitting.—First adapted in New York State in 1885 to the manufacture of underwear and drawers, rib knitting is much more elastic in width than plain knitting. This is because in rib knitting the loops in certain wales are meshed in a direction opposite to those in the remaining wales. Rib knitting may consist of various combinations of plain and rib wales to give different longitudinal effects. Rib fabric is not necessarily confined to the one-and-one-rib stitch. Proportions of 2 to 1, 1 to 3, 2 to 2, or others may also be used.

Rib fabric is made with two sets of intermeshing needles knitting at right angles opposite to each other. In this manner, wales or ribs appear on both the face and back of the fabric. In the finishing of rib fabric, a protective border called a welt is added. Rib knitting yields popular fabrics for women's "slimfit" lingerie, sock tops, and sweater cuffs.

Purl Knitting.—In its simplest form, purl knitting, sometimes referred to as "links and links" knitting, has loops of alternate courses meshed on opposite sides. As constituted, it contracts in length until the first and third courses adjoin on one side and the second and fourth on the other, thus forming a double fabric resembling the back of a plain fabric on both sides. By differentiating the methods of meshing and by using a combination of purl, plain, and rib knit, the fabric may be produced in many varying designs. Pleats in skirts, for example, may be made by combining purl loops with plain loops.

In purl knitting the ordinary latch needle is replaced by a needle containing a hook at each end so as to enable the knitter to change direction without resetting or changing the position of the needle.

Purl knitting is used largely in the manufacture of infants' and children's garments because it more closely resembles hand knitting and gives the desired characteristics of softness and loftiness. Purl knitting is also used for ladies' underwear and men's half-hose stockings.

Interlock Knitting.—Interlock or double-rib knitting was patented in 1908 by R. W. Scott of Laconia, N. H. The fabric produced was not immediately accepted in the United States, but did receive wide approval in Europe and South America, so that by World War II it was in general use. After the war the use of interlock fabric became well-established in the United States.

Interlock Machines.—Interlock knitting machines have been improved to create various patterns by using tuck stitches and by varying the yarn colors. Circular spring needles as fine as 36-gauge and latch needles as fine as 24-cut have been producing pattern knitting in a variety of fabrics, particularly for ladies' underwear.

The interlock machine is similar in outer appearance to a rib machine. Both have dials and cylinders. In the rib machine, all the dial needles and cylinder needles are the same, and knit on every course. In the interlock machine, however, both the dial and cylinder have a long series and a short series of needles arranged alternately (one long, one short). These long and short needles have independent cam races

which enable them to control the needles independently. Thus all the long needles on both the cylinder and dial rise to knit at alternate feeds, and all the short needles on both cylinder and dial are in holding position. After the long needles are pulled down, the short needles rise and knit on the other feeds. In other words, only half the total needles are in action, while the other half are idle.

Interlock Fabric.—The fabric produced is essentially a combination of two opposed rib fabrics having the long cylinder needle wales interposed between the short needle wales. The result is a stretchable double-rib cloth which looks like a rib fabric but whose surface is generally much smoother.

Interlock fabric has a feeling of fullness and warmth, possesses a smooth surface on both sides, is an effective absorbent of moisture, and is of fine texture. Compared with rib fabric, it possesses greater strength, weight, and durability owing to its two-rib construction, and will not curl, therefore making it more desirable to cut and sew.

Interlock fabric is ideal for quality outerwear garments such as polo shirts, T-shirts, sport shirts, pajamas, and children's play shirts, for all types of underwear, and for gloves.

Warp Knitting.—Warp knitting is one of the main processes for utilizing filament yarns, particularly rayon acetate, and viscose rayon and nylon. Warp-knitting machinery achieves a rate of production higher than in most other textile processes; is capable of producing many varieties of patterns; and can yield cloth with a dimensional stability almost equal to that of woven cloth.

The modern warp-knitting machine has a width of either 84 or 168 inches, and the most popular gauge contains 28 bearded needles in each inch of the needle bar. Machines of 84-inch widths may operate at a speed of 500 or more courses per minute, while the double-width (168-inch) machine is capable of producing over 2,000,000 stitches, or 10 square feet, of fabric per minute.

The structure of simple warp-knitted fabric, made with a single set of warp threads, follows a zigzag pattern throughout the length of the fabric, forming a loop at each change of direction. These loops are interlocked during the knitting action with other loops formed by adjacent warp threads following a similar path. Warp knitting from a two-bar machine produces a more stable fabric with better covering properties, provided the two threads which form each loop are wrapped around the needles in opposite directions.

The threads are brought forward to the knitting point and pass through a sley or point bar which separates all the individual ends and which insures that the correct relative positions are retained throughout the length of the warp. When the warping is finished, the threads are retained at the correct spacing and in the correct order by two strips of gummed paper which are applied to either side of the threads while the latter are still under tension.

The knitting of warp fabrics is done on tricot, Milanese, Simplex, Raschel, and Kayloom machines. Tricot is the most widely used machine, because it makes possible the simplest type of warp knitting and lends itself readily to high speeds.

Warp knitting is the newest branch of the textile industry, but it was slow in developing on a large scale because warp-knitted fabrics are more expensive to produce than the circular knitted fabrics. Warp knitting is widely practiced in the United States, Germany, England and Japan. Warp-knitted fabrics are manufactured into underwear, dresses, draperies, mesh curtains, bedspreads, and tablecloths.

See also **HOSIERY INDUSTRY AND HOSE; TEXTILE INDUSTRY—Hosiery and Knit Goods.**

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KNOB HILL, village, Colorado, located in El Paso County about three miles northeast of Colorado Springs. Pop. (1950) 3,612.

KNOBEL, k'nō'bēl, **Karl August Wilhelm**, German Protestant theologian: b. Tzschscheln, near Sorau, Germany (now Żary, Poland), Aug. 7, 1807; d. Giessen, Germany, May 25, 1863. Professor of theology at Giessen University from 1838, he became best known for his 1 commentaries. These included *Kommentare über 1 Koheleth* (1836); *Der Prophet Jesajas* (1844); *Die Bücher Exodus und Leviticus* (1857); *Die Genesis* (1860).

KNOBELSDORFF, k'nō'bēls-dōrf, (Hans) **Georg Wenzeslaus von**, German architect: Kuckädel, near Crossen, Germany (now Krośnice, Poland), Feb. 17, 1699; d. Ber Sept. 16, 1753. After serving in the army retired in 1729 to work as a painter, to study architecture, and to travel in France and Italy (1736). From 1740 he served Frederick the Great as supervisor of royal Prussian castles and gardens. He is best known for his roles in the construction of the castle of Rheinsberg (1733-1739), the opera house of Berlin (1741-1744, which was rebuilt in 1926, and the complete rococo palace of Sans Souci (1745-1747) at Potsdam.

Consult Streichhan, Annelise, *Knobelsdorf und die Preussische Rokoko* (Magdeburg, 1932).

KNOBKERRIE, nōb'kēr-ī, or **KNO1 STICK**, a knobbed stick historically used by Zulus, Bantus, or other African tribes, and by tribes in Australasia, particularly the Fijians. Effective as a missile against birds or small animals, it can be thrown with unerring accuracy from quite a distance. It is also used as a walking stick or, at close quarters, as a club.

KNOBLOCK, nōb'lōk, **Edward**, Anglo-American playwright and novelist: b. New York, N. Y., April 7, 1874; d. London, England, Jan. 19, 1945. Graduated from Harvard College in 1896, he became active in the London theatre and acquired British citizenship. During the

t four decades he turned out plays and adaptations at the rate of almost one yearly, including his first great success, *Kismet* (1911), *Marie-Jole* (1915), *The Lullaby* (1923), *The Mulberry Bush* (1930), *Rolling Stone* (1936), and *Bird of Passage* (1943).

For the stage he also adapted several well-known novels: Vicki Baum's *Grand Hotel* (1931), A. J. Cronin's *Hatter's Castle* (1932), and V. Sackville-West's *The Edwardians* (1934). He collaborated with Arnold Bennett on the plays *Lostones* (1912), *London Life* (1924), and *Mr. Chack* (1927); and with J. B. Priestley on the dramatization of the latter's *The Good Companions* (1931).

Knoblock's own novels included *Ant Heap* (1929), *The Man With Two Mirrors* (1931), *The Love Lady* (1933), and *Inexperience* (1941). He published his autobiography, *Round the Horn*, in 1939.

KNOCK-KNEE. See **JOINT**—*Knock-knee*.

KNOCKE, k'nô'kă (formerly **KNOCKE**), town, Belgium, situated in West Flanders Province on the North Sea coast. It is the center of one of Belgium's most fashionable winter and summer resort areas, comprising Knokke-sur-mer and Le Zoute and Albert-Plage, the latter both subcommunes of Knokke, which is the terminus of a branch railway from Bruges, 10 miles southwest. The old-village section of Knokke contains a war museum and memorial and a Gothic church. Pop. (1952) 11,983.

KNOLLES, nölz, or **KNOWLLES**, Richard, English historian: b. (probably) Cold Ashby, England, c.1550; buried in Sandwich, Kent, July 2, 1610. After receiving his M.A. from Lincoln College, Oxford, in 1570, he became the master of the Sandwich grammar school around 1571. His outstanding accomplishment was his authorship of the ornately written *The Generall Historie of the Turkes from the First Beginning of that Nation* (1603), which won the admiration of Samuel Johnson, Henry Hallam, Robert Southey, and Byron, and went through various editions.

KNOLLYS, nölz, **SIR FRANCIS**, English court official: b. about 1514; d. July 19, 1596. He found favor with Henry VIII, who in 1538 granted him in fee his deceased father's estate of Rotherfield Grays, near Henley-on-Thames in Oxfordshire, and who also made him a gentleman-pensioner at court. After the ascent of Edward VI to the throne, he accompanied the king's army to Scotland, and in 1547 was knighted by its commander, the duke of Somerset. With Mary I's accession in 1553, Sir Francis' position as a staunch Protestant induced his voluntary exile to Germany, though he returned to England before Mary's death.

Married to a first cousin of Elizabeth I, Mary's successor, he was appointed to the queen's privy council in 1558 and was made vice chamberlain of her household. Later he won appointment as treasurer of the royal household in 1572, was created a knight of the Order of the Garter in 1593. He was elected to the House of Commons from Horsham (1542), Arundel (1559), Oxford (1562), and Oxfordshire (1572), presenting the latter constituency until his death.

When Mary Queen of Scots fled to England in May 1568, Sir Francis and Baron Henry Scrope were jointly entrusted with her care, first at Carlisle Castle and then at Bolton and Tutbury castles. At first, Sir Francis urged Elizabeth not to keep Mary imprisoned without a trial, but in 1587, as both a member of Parliament and of the privy council, he finally urged the Scottish queen's execution.

KNOLLYS, Hanserd, English Baptist clergyman: b. Cawkwell, England, c.1599; d. London, Sept. 19, 1691. Graduated from Cambridge University, he was ordained a priest in 1629. He became a Separatist in 1636, renounced his orders, and then fled to New England to escape imprisonment for heterodox opinions. Knollys returned to England in 1641, taught school in London, and then became an army chaplain. By 1644 he was preaching his own doctrines in London and Suffolk, which led to his twice being brought before a parliamentary committee. From 1645, when he gathered together his own congregation, until the Restoration he was not interfered with, but in 1661 he escaped prosecution by fleeing to Holland and Germany for several years. After returning to London he resumed his preaching, was arrested in 1670 and imprisoned, but then freed.

Besides numerous sermons, he published the eight-volume *Grammaticae Latinae, Graecae et Hebraicae Compendium* (1665). His writings formed the basis of the posthumously published *The Life and Death of . . . Hanserd Knollys* (1672).

KNOLLYS or **KNOLLES**, **SIR ROBERT**, English military commander: b. Cheshire, England, between 1316 and 1326; d. Sculthorpe, Aug. 15, 1407. His first military service was in Brittany under Sir Thomas Dagworth at the siege of La Roche d'Orient (1346). As a knight he took part in 1351 in the "Combat of the Thirty" in Brittany and was taken prisoner by the French. On his release he remained in Brittany until he joined Henry of Lancaster on his raid (1356) into Normandy. In 1358 he became head of the "Great Company" of plunderers in Normandy, his share of the loot being 100,000 crowns. In the Loire Valley he and his troops captured 40 castles and ravaged the country from Tonnerre to Vezelay and Nevers, and onward to Orléans. His troops then sacked Auxerre (1359), where he exacted a huge ransom. Later he captured Châtillon-sur-Loing (1359) and conducted raids through Berri into Auvergne, threatening Avignon, papal seat of Innocent VI.

Subsequently he returned to Brittany to aid Simon de Montfort against Charles de Blois, duke of Brittany, and then joined Edward, the Black Prince, in his Spanish expedition (1367), assisting in the capture of Navarrete and in the battle of Nájera (1367). Soon he again returned to Brittany where he was given command of an expedition in 1370 which was to land at Calais to offset a military attack planned by France against Wales. From Calais his troops marched on to sack the suburbs of Arras and then through Artois into Picardy and Varmandois, continuing their plundering until reaching Rheims and then Villejuif, near Paris. These extended raids diverted France from launching its assault on Wales. Sir Robert was residing in London in 1381 when the Peasants' Revolt broke out. The

city gave him military control, and he was quickly able to quiet the uprising.

KNOOP, knöp, **Gerhard Julius Ouckama**, German novelist: b. Bremen, Germany, June 9, 1861; d. Innsbruck, Austria, Sept. 7, 1913. In 1878 he was graduated from the Bremen Real-schule, and was sent to the Hannover Polytechnic Institute to qualify as an industrial chemist. He went for further training to Munich (1881) and Mulhouse (1883), in Alsace-Lorraine, before assuming an important post in 1885 with a calico-printing works in Moscow. He remained in Russia until 1911, when he settled in Munich.

His literary work, which he regarded almost entirely as a pastime, was chiefly in the fields of satirical narrative and historical romance. Of particular interest to Americans are his novels *Sebald Sockers Pilgerfahrt* (1903) and *Sebald Sockers Vollendung* (1905), which describe the disappointments experienced in Germany by a young German-American visiting there. His other works include *Die Karburg* (1897), *Die Dekadenten* (1898), *Das Element* (1901); *Hermann Osleb* (1904); *Prinz Hamlets Briefe* (1909); *Der Verfalltag* (1911); *Unter König Max* (1913); *Gedichte* (1914); and *Das A und Das O* (1915).

KNOPF, k'nüpf, **Alfred A(braham)**, American publisher: b. New York, N. Y., Sept. 12, 1892. After graduating from Columbia University (B.A., 1912), he entered publishing in late 1912 as an employee of Doubleday, Page & Company in Garden City, N. Y., and early in 1914 went to work for another publisher, Mitchell Kennerley.

In the summer of 1915, Knopf launched his own firm of Alfred A. Knopf in New York City. After his first publishing venture with Barrett Clark's translation of four plays by Émile Augier, he continued to pioneer in bringing to American readers other translations of outstanding foreign authors. He introduced to Americans Sigrid Undset's *Kristin Lavransdatter* (1920), Knut Hamsun's *Growth of the Soil* (1921), Ivan Bunin's *The Gentleman from San Francisco and Other Stories* (1923), Thomas Mann's *Buddenbrooks* (1924), and Mikhail Sholokhov's *And Quiet Flows the Don* (1934). Knopf also became the American publisher of such important French authors as Jules Romains and André Gide.

In the fields of English and American literature he was responsible for the first American printing of *Green Mansions* (1916), which did much to establish a W. H. Hudson vogue. This novel was followed shortly by Joseph Hergeheimer's extremely popular *Three Black Pennys* (1917); H. L. Mencken's *The American Language* (1917); and most of the works of these authors and of Max Beerbohm, Carl Van Vechten, Willa Cather, and John Hersey. By the time the Knopf firm was 35 years old, its book-list contained some 4,000 titles, including works by nine Nobel Prize winners.

Besides his attention to the contents of books, Knopf insisted on excellence in their manufacture. Relying heavily on fine printers, his firm issued books which were notable for their good paper, variety of type faces, attractive bindings, and colorful jackets.

With Mencken and George Jean Nathan, whose works he also published, Knopf founded the *American Mercury* and was its publisher from

1924 through 1934. In 1916, Knopf was married to Blanche Wolf, who later became co-publisher.

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KNOPF, k'nöpf, **Siegmund Adolphus**, German-American physician: b. Halle, Germany, Nov. 27, 1857; d. New York, N. Y., July 15, 1940. Graduated from the Sorbonne, Paris, in 1890, he gained his medical diplomas from the Bellevue Hospital Medical College of New York University (1888) and the Faculty of Medicine of the University of Paris (1895). In 1908 he was made professor of medicine in the Department of Phthisiotherapy of the New York Post-Graduate Medical School of Columbia University, where he served until 1920. One of the most active physicians in the combating of tuberculosis, he was affiliated as a consulting physician with numerous sanatoriums for the tubercular and played a major role in founding the New York City and National Tuberculosis associations.

He was the author of *Tuberculosis as a Disease of the Masses and How to Fight It* (1901, 8th ed. 1911), which appeared in at least 27 languages; *Tuberculosis, a Preventable and Curable Disease* (1913); and *A History of the National Tuberculosis Association* (1922; 4th ed. 1928).

KNORR, k'nôr, **Iwan Otto Armand**, German composer: b. Mewe, West Prussia, Jan. 3, 1853; d. Frankfurt-am-Main, Germany, Jan. 22, 1916. After receiving training at the Leipzig Conservatory, he was appointed teacher of music at the Imperial Institute for Noble Ladies at St. Petersburg, Russia (1874–1883). On the recommendation of Johannes Brahms he was, in 1883, named teacher of theory and composition at the Hoch Conservatory in Frankfurt and became director in 1908. The composer of the opera *Dunja* (1904), *Die Hochzeit* (1907), and *Durchs Fenster* (1908), Knorr also produced piano, string, and orchestral pieces, and won a popular following for his *Ukrainische Lieder*.

KNORR, Ludwig, German chemist: b. Munich, Germany, Dec. 2, 1859; d. Jena, June 5, 1921. After studying at Munich, Heidelberg, and Erlangen universities he went to the University of Würzburg in 1885, was promoted to a professorship three years later, and from 1890 on taught at Jena. Through his research in organic chemistry he had by 1884 isolated and synthesized the compounds quinoline, antipyrine, and pyrazolone.

KNORTZ, k'nôrts, **Karl**, German-American author: b. Garbenheim, near Wetzlar, Prussia, Aug. 28, 1841; d. Tarrytown, N. Y., July 28, 1911. After attending Heidelberg University he went to the United States in 1863 and, until 1874, taught school in Detroit, Oshkosh (Wis.), Cincinnati, and New York City. For several years he edited a German daily newspaper in Indianapolis, and then from 1892 to 1905 he was superintendent of the German department of the public schools of Evansville, Ind. In 1905 he moved to Tarrytown, N. Y., to devote full time to writing in the fields of folklore and comparative literature. His works include *Tales and Legends of the North-American Indians* (1871); *American Sketches* (1876); *Longfellow* (1879); *From the H'gawa* (1880); *Capital and Labor in America* (1881); b

ian Legends; Pictures of American Life (1884); *Friedrich Nietzsche, der Unzeitgemässe* (1909); *American Superstitions of To-day* (1913); and *American Jews* (1914). He interpreted American culture to the Germans, and helped make American authors known to them. Died Tarrytown, N. Y., July 28, 1918.

KNOSSOS or **CNOSSUS** or **GNOSSUS**, *nōs'us*, ancient city, Crete, located near the north coast, 4 miles southeast of modern Candia. The center of Cretan civilization in the Bronze Age, it was occupied well before 3000 B.C. Excavations begun in 1900 by Sir Arthur J. Evans brought to light the great palace of the legendary King Minos, built first in about 2000 B.C. (See *Labyrinth*.) The plan of the great palace, based on the remains uncovered by Sir Arthur, includes a great throne room with a limestone throne, a ceremonial or theater area, a central court with adjoining state apartments, and magazines where oil, wine, and other foodstuffs were kept. Many of the halls and rooms were decorated with frescoes, and the palace was flanked by the magnificent houses of nobles and other dignitaries, well as by a hostel or hotel for visitors. The palace is the largest and best preserved of the ancient buildings, and has been the most completely investigated of those monuments. (See *Architecture—Aegean*.) It was destroyed in about 1400 B.C., but the city itself remained an important center until the 4th century A.D. See *ARCHAEOLOGY—Old World*.

KNOT, a limicoline bird (*Calidris canutus*), feeding in the Arctic and wintering in temperate zones. It is chunky and stout, and has a bill which is about equal in length to the length of head. In spring its breast is light robin-red color and its back mottled gray and black; all its color is more nondescript, with the east being whitish. The knots often migrate in closely packed flocks. See also *ROBIN SNIP*.

KNOT, a nautical measure. See *NAVIGATION—Definitions; SHIPPING AND SHIPBUILDING TERMS, WEIGHTS AND MEASURES—Classification, Unit Standards*.

KNOTGRASS. See *GRASSES*.

KNOTS. See *KNOTTING AND SPLICING*.

KNOTT, A(loysius) Leo, American lawyer and public official: b. near New Market, Frederick County, Md., May 12, 1829; d. Baltimore, April 18, 1918. He graduated with honors at St. Mary's College, Baltimore, in 1847, and, after teaching for three years, studied law with William Schley of Baltimore. He was admitted to law practice in 1855. He was prominent in the struggle of 1864-1867 to free Maryland from rule by the Unconditional Unionist Party. His state offices included that of member, Maryland House of Delegates, 1866 and 1899. He served on the Democratic National Executive Committee, 1872-1876, and as 2d assistant postmaster general under Grover Cleveland, 1885-1889. He was a member of the Maryland Historical Society and a president of the Maryland Original Research Society. His works include *History of the Redemption of Maryland* and articles on Maryland for *The Encyclopedia Americana* (1904) and *The Catholic Encyclopedia* (1910).

KNOTT, Cargill Gilston, British physicist: b. Penicuik, Scotland, June 30, 1856; d. Oct. 26, 1922. He studied at Edinburgh University and was assistant professor of natural philosophy there, 1879-1883. He was then professor of physics at the Imperial University, Tokyo, Japan, 1883-1891, and conducted a magnetic survey of Japan in 1887. Returning to Scotland (1892), he lectured on applied mathematics and was awarded the Keith Prize of the Royal Society of Edinburgh for special research work on magnetic strains (1897). He gave the Thomson lectures at the United Free Church College, Aberdeen, on earthquakes (1905-1906) and on radioactivity (1913-1914). His works include *Electricity and Magnetism; Physics of Earthquake Phenomena* (1908). His *Photometry* was in its 11th edition in 1921.

KNOTT, James Proctor, American legislator and legal scholar: b. near Raywick, Ky., Aug. 29, 1830; d. Lebanon, June 18, 1911. He studied law, was admitted to the Missouri bar in 1851, and entered practice at Memphis, Mo. In 1857 he was elected to the Missouri legislature, in 1859 was appointed to the office of attorney general of Missouri to fill a vacancy, and in 1860 was elected to that post. Having refused, at the beginning of the Civil War, to take an oath of allegiance which he considered too severe, he was for a time imprisoned. In 1862 he moved to Kentucky, where he established a law practice at Lebanon; and in 1867-1871 and 1875-1883 served in Congress as Democratic representative from the 4th Kentucky District. He was long chairman of the House Committee on the Judiciary. In the 41st Congress (1871) he made a celebrated speech opposing a land grant to a railroad and poking ridicule at the rising little town of Duluth, Minn., which later forgave him and gave him a rousing welcome. He was governor of Kentucky in 1883-1887, a delegate to the Kentucky Constitutional Convention in 1891, professor of civics and economics in Centre College, Danville, Ky., in 1892-1894, and from 1894 to 1901, professor of law and dean of the law faculty there.

KNOTT, Thomas Albert, American lexicographer and philologist: b. Chicago, Ill., Jan. 12, 1880; d. Ann Arbor, Mich., Aug. 16, 1945. He received the B.A. degree at Northwestern University in 1902 and the Ph.D. degree at the University of Chicago in 1912. He began teaching in 1901, was instructor and associate professor of English at the State University of Iowa, 1920-1926, and professor of English and editor of the *Middle English Dictionary* at the University of Michigan, 1935-1945. His contributions to lexicography and philology include his general editing of *Webster's New International Dictionary, Second Edition* (1934), and his coauthorship, with Samuel Moore, of *Elements of Old English* (1919) and, with John S. Kenyon, of *A Pronouncing Dictionary of American English* (1944).

KNOTTING AND SPLICING, the fastening or tying of ropes or cords. There are hundreds of varieties of knots, most of which are used only on shipboard. Generally, the requirements of a useful knot may be stated to be that, while it holds without danger of slipping while the strain is on it, when slackened it should be easily untied. The simplest knot is the kind generally tied at the end of a thread or a



Overhand Knot



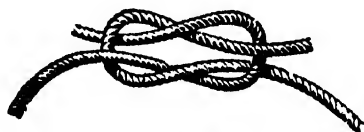
Half Hitch



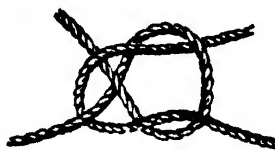
Two Half Hitches



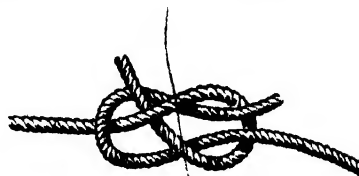
Midshipman's Hitch



Granny Knot



Fisherman's Knot



Sheet Bend



Bowline Knot



Running Bowline



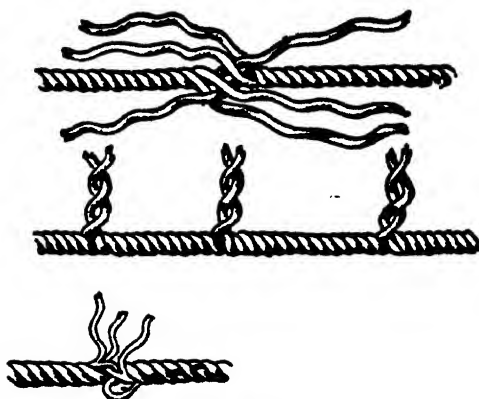
Inside Clinch



Figure Eight Knot



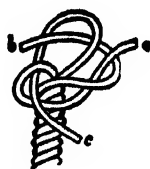
Sheepshank



Long Splice



Carrick Bend



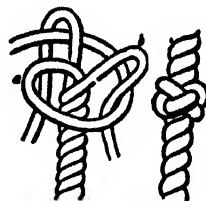
Single Wall Knot



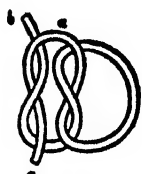
Wall and Crown



Double Wall and Double Crown



Diamond Knot



Reef Knot



Short Splice



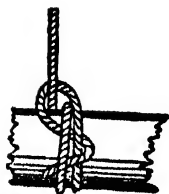
Half Hitch

Timber Hitch

Clove Hitch



Marlin Spike Hitch



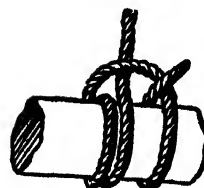
Studding-Sail Halyard Hitch



Sacking Seizing



Timber Hitch



Magnus Hitch



Double Blackwall Hitch



Eye Splice



Single Blackwall Hitch



Cat's Paw

cord to prevent it slipping. By passing a loop instead of the end of the cord the common slip-knot is formed; and a useful fixed loop is got by tying a simple knot, or the "figure of 8 knot" on the loop of a cord. One of the simplest and most useful running knots for a small cord is made by means of two simple knots. The most secure method of fastening a line to, say, a bucket is the standing bowline; and a running bowline is formed by passing the end through the loop, thus making a running loop. Out of the score or so of methods of fastening a boat's painter the one which will be found most useful is the well-known two half-hitches. The timber hitch is useful for attaching a line to a spar or a stone, and the clove hitch is invaluable for many purposes. It is very simple and cannot slip. A simple method of fastening a rope to a hook is the blackwall hitch, where the strain on the main rope jams the end so tightly against the hook that it cannot slip. There are many methods for shortening a rope temporarily, one of them being the sheepshank.

Of the methods for uniting the ends of two cords the simplest and one of the most secure is the common reef knot, which must be carefully distinguished from the "granny," which will jam if it does not slip; the reef knot will do neither. For very small cords or thread the best knot is the weaver's. The fisherman's knot is a very useful one for anglers and is formed by a simple knot in each cord being slipped over the other; when drawn taut it is very secure, and it is easily separated by pulling the short ends. A useful method of uniting large ropes is to tie a simple knot on the end of one rope and interlace the end of the other, and draw taut. This tie may also be made with the figure of 8 knot. For very large ropes the carrick bend is the simplest and most secure. The bowline bend is formed by looping two bowline knots into each other. For attaching a small line to a thick rope the becket hitch is very useful.

Splicing is the process employed to join two ropes when it is not advisable to use a knot. The three chief varieties of the splice are the short splice, the long splice and the eye splice. The short splice is made by unlaying the ends of two ropes for a short distance and fitting them closely together; then, by the help of a marlin-spike, the ends are laced over and under the strands of the opposite rope. When each strand has been passed through once, half of its thickness is cut away and the remainder passed through again; half of the remainder being also cut away, it is passed a third time, and, when all the strands are so treated, they are hauled taut and cut close. This reducing the thickness of the strands tapers off the splice. The long splice is employed when the rope is used to run through a block, as it does not thicken it. The ends of the two ropes are unlaid for a much longer distance than for the short splice, and similarly placed together. Then one strand is taken and further unwound for a considerable distance, and its vacant place filled up with the corresponding strand of the other rope, and the ends fastened as in the short splice. Other two of the strands are similarly spliced in the opposite direction, and the remaining two fastened at the original joining place. The eye splice is, as the term implies, used to form an eye, or round a dead eye.

To prevent a rope fraying at the ends a variety of methods are employed, the simplest

being to serve or whip the end with small cord.

KNOUT, nout, or nōōt, the official instrument of punishment formerly used in Russia, dating from about 1450, made in various forms but usually being a heavy whip of leather thongs artificially hardened, twisted with wire and sometimes hooked at the ends, etc. On hundred strokes were considered equivalent to sentence of death, as the victim seldom survived. On account of the severity of the punishment Nicholas I issued an order substituting punishment with a lighter whip of three thongs, known as the pleti.

KNOWER, Henry McElderry, American anatomist b. Baltimore, Md., Aug. 5, 1868, there, Jan. 10, 1939. He was graduated from Johns Hopkins University in 1890, and there received his Ph. D. degree in 1896. He served a Johns Hopkins as assistant in biology (1894-1893), as Adam T. Bruce Fellow (1895-1896), as instructor in anatomy (1899-1908), and as associate instructor (1908-1909). In 1909-1911 he was lecturer at the University of Toronto thereafter becoming professor of anatomy at the University of Cincinnati, a position which he held until 1925. He served in a similar capacity at the University of Alabama (1926-1929), and for 21 years was managing editor of *The American Journal of Anatomy*. His notable researches included embryological and anatomical studies of the frog, and experimentation with the human heart muscles.

KNOWLEDGE. In the objective aspect knowledge is simply and logically the known. It comes in, or by, knowing in experience of minds or subjects. More actively or volitionally knowledge is attained or acquired by learning and by study. *Knowing* in the subjective aspect in the "subject-object" relation is the correlate of knowledge in the relations of knowing subjects to existent and real objects. But knowledge of known objects is logically distinct from the objects known. These *three* correlates should not be confused, as they have been too pervasively and often too persistently in reflective thinking and philosophy, and even in systematic thought and science.

The *philosophy of knowledge*, or *theory of knowledge*, the inquiry and study of the nature, origin, development, limitations, and validity of human knowledge, is treated more adequately in the article on **EPISTEMOLOGY**, which is the most recently accepted name for the traditional "theory of knowledge," as a branch of metaphysics and of philosophy. But the philosophy of knowledge includes, besides epistemology, the philosophical extension of logic, the philosophy of science, and especially of psychology. But here we should consider the relation of knowledge to reality, in philosophy and science usually termed the "subject-object relation," or knowledge relation.

Objects appear to subjects, who perceive, recognize, them, and consistently describe them in terms of common experience. We distinguish intuitively or cognitively the subjective and perceptible as mental and the objective and perceptible as existent and external to the mind, and we judge that the subjective percepts are correlative to the perceptual real objects. These percepts are assimilated in developmental concepts. Sub-

sequent similar percepts are recognized and so have *meanings* relative to our past experience and knowledge, and to these meanings subsequent similar meanings are *apperceived*. These experiential and developmental concepts and meanings are synthesized and *organized* in knowledge, which thus is correlative to reality; but knowledge is not *existent* as real objects are. This correlation of perceptual and conceptual knowledge to reality subsists in and depends on physical, and possibly spiritual, properties and actions in, or of, the real objects and transmitted through some medium, or by some means. *Reality* is ascribed to entities and objects that exist, or subsist, in verified, or verifiable, correlation to true and coherent knowledge. Such entities and objects are real. As the knowledge becomes truer the verification becomes more true. The realities are developmental as the entities are, and the verification as the knowledge is. *Truth* is the quality of knowledge veritably correlated to reality. Real objects in real relations constitute the reality of existent systems, and upon this depends the conceptual verity of the real universe. But *existence* is more extensive than reality, and there may be existent entities or objects that are unknown or unrealized.

Knowing is developmental; there is a process of learning and of knowing. Concepts cohere in mental synthesis and in *apperception*, and there is a more complex organization of knowledge in the mind. The subjective and objective aspects indicated above pertain to this developmental and organized knowledge.

Learning is distinct from knowing and from knowledge. The term *learning* likewise has subjective and objective aspects. In the subjective aspect learning is more voluntary and active, and also more methodic than knowing; and it implies not only interest and attention but often study and purpose. In the objective aspect learning is more elaborately developed than knowledge, and methodical systematic education, also purposive, is often implied. The psychological and educational aspects of learning are considered more especially in the article on LEARNING.

Knowledge is qualitatively distinct from belief, opinion, understanding, and intelligence. *Belief* affirms from experience, or more willfully on faith, or on authority, conjectures from insufficient evidence and without verification, and sometimes is prone to conclude from inconclusive inference; yet belief often affirms certitude. *Opinion* derives from reflective thinking on incomplete knowledge or unverified conjecture, and sometimes from inference from partial evidence. *Understanding* comprehends not only the verified knowledge, or the conclusive belief, but the constitutive and intelligible relations in which the realities are comprehended. In the history of philosophy the term *understanding* has been used sometimes too comprehensively as the subjective correlate of knowledge, and sometimes as the objective aspect of mind. *Intelligence* implies, with more definite connotation not only comprehension of knowledge but clearer perception and apperception of the constitutive relations. *Intelligence* is the subjective correlate of the intellect, regarded objectively. The term *intelligence*, used objectively for special available knowledge, is inconsistent and may be confusing. *Mind* is the more comprehensive conceptual term for the developmental, sentient, perceiving, conceiving, thinking, rational, affective, and conative

organism, comprising knowledge, memories, dispositions, tendencies, instincts, affections, purposes, and other mental and conscious processes, states, and activities, which are studied in psychology. For special information the reader is referred to the articles on APPERCEPTION, APPREHENSION, MIND, PERCEPTION, and EDUCATION, PSYCHOLOGY OF.

Kinds of Knowledge.—The terms defined in the foregoing paragraphs are correlative to developmental and interrelated concepts and realities, and there are processes of knowing and products of knowledge. There are also definite *kinds* of knowledge, though they are relative and not exclusive. Perceptions and experiences develop into experiential, or *empirical* knowledge, comprising not only impressions, experiences, concepts, and apperceptions, but *knowledge of acquaintance*, simple judgments and inferences, *common knowledge* of habitual and traditional ways of doing and making things, "knowledge about" nature and worldly concerns, and remembrance of past events, all of which is more or less conceptual, developmental, organized, social or communal, and rational, and which extends into scientific and technical and professional knowledge.

Rational knowledge depends more on comprehensive conceptual knowledge and on valid thinking; and it develops into theoretical knowledge in science and in philosophy, also in economics, in history and in education, especially in the philosophy of these studies. Rational thought also extends into linguistics, aesthetics, and criticism.

Empirical and rational knowledge, whether simple or combined, is *mediate*, or derivative, as distinct from *immediate* and *intuitive* knowledge. Knowledge by acquaintance implies immediate apprehension, perception and recognition, with simple judgment, and without conscious inference; so it is distinct from rational knowledge, though it may have some mediate conception and apperception; but it is distinct from *descriptive* and *analytical* knowledge about things, which may develop into comprehension, understanding, and intelligence in science and in philosophy, but combined with the relevant conceptual and rational thought.

Intuitive knowledge springs also from immediate apprehension, or innate or inherited disposition, or some past *mnemonic* impression, or some revived organized experience. The terms *intuition* and *intuitive* pertain to such judgments, beliefs, and knowledge, which are less conscious or may be unconscious. Yet neither intuitive nor common knowledge is altogether distinct from mediate and rational knowledge. The facts of common knowledge are results of human experience in recurrent similar circumstances, and the intuitive ideas and beliefs that permeate human thought and conduct have developed in the individual mind, and in the racial, from habitual and customary experiences and reactions.

Scientific knowledge, or *science*, defined in the terms of the leading authorities, is verified and organized knowledge, experiential and rational, and especially methodic, proceeding to generalizations, theories, and conceptual systems, and to predictions and verifications. From common and empirical knowledge science is distinct as especially more methodic. From rational knowledge it is distinct as more descriptive and analytical, though it is also synthetic and theoretic. Basic, or fundamental, science is very

largely *applied* in derivative sciences, in the relevant technologies, and in the industries and arts. It is important to distinguish scientific from other knowledge, and science from philosophy. For fuller information the reader is referred to the article on SCIENCE, and to those on the several special sciences.

Knowledge is relative to reality, coherent, organized, and systematic, with a unitary tendency. The supposed kinds of knowledge differ mainly in development and in comprehension.

Organization of Knowledge.—The organization of knowledge comprehends not only the mental processes, the development of concepts and the conceptual synthesis of knowledge, but also the intellectual correlation and systemization of valid knowledge from the simple social synthesis of common experience and elementary education to the more complex conceptual systems of science and philosophy.

Classification is fundamental to the organization and systemizing of knowledge. Regarding the nature of classes see the article on CLASSIFICATION. Special sciences and studies, centered about special concepts, interests, and problems, are distinct and definite with regard to these, but they are more or less dependent on one another, and some are especially derivative on more general or *fundamental sciences*. Some are further dependent on derivative sciences. So there is a gradation from the more general to the more special studies with regard to their dependence. Some studies have like or closely related interests, concepts, and problems, and by virtue of these they may be interrelated. So classes of sciences and of studies are defined and named, though few of the classes are distinct or separate. Usually they are defined by only one or two characters and named by only one or two distinctive terms. They may be more like groups than classes.

The classification of the sciences has been a methodological problem since the triadic division proposed by Greek philosophers: logic, physics, and ethics, to validate thought, to study the nature of the world, and to explicate and ameliorate human life and conduct. By Aristotle this was altered to three partly equivalent divisions: Theoretical, Practical, and Productive studies. The theoretical group he subdivided into physics, mathematics, and metaphysics. Practical philosophy he divided into ethics, politics, comprising rhetoric, and economics, as related to politics. Productive philosophy comprised poetics and the arts. His *poetics* studied, not merely poetry, but other arts and industries, or technologies, which are now regarded as practical and productive too. His division was indeed untenable. But the prior Greek triad was a valid basis for the development of the *system of knowledge*.

The medieval "seven liberal arts" comprised the *trivium*, three studies related to logic: grammar, dialectics, and rhetoric; and the *quadrivium*, four studies related to physics and mathematics: geometry, arithmetic, astronomy and music. In the curriculum of the scholastics those seven studies, or "disciplines," were regarded as preparatory to the higher studies of theology, metaphysics, and ethics. In the last centuries of the Middle Ages and in the Renaissance period several variously rationalized systems of knowledge and study were projected with some regard for Aristotle's divisions and with due regard for the

three faculties, theology, law, and medicine, or the rising universities; and history was added. Those of Georg Reisch (1496) and Johann Matthias Gesner (1548) were encyclopedic. By addition of many studies the systems were extended.

Francis Bacon, who was among the precursors of modern method in science, failed to produce a valid system because of his untenable divisions by three mental "faculties": memory, imagination, and reason, ineptly related to history, the arts, and the sciences and philosophies. Thomas Hobbes in his famous work, *The Leviathan*, came nearer providing a foundation for modern systems; and he added many special studies.

German philosophers of the 18th and 19th centuries proposed systems of historical interest, though not available to the present purpose. Johann Eduard Erdmann, Wilhelm Wundt, and Wilhelm Ostwald outlined valid systems, but they were impaired by untenable divisions.

The French *Encyclopédie des sciences, des arts, et des métiers*, edited by Diderot and D'Alembert, and issued in 1751-1780 in 35 volumes, gave a great impetus to the systemization of knowledge. It was followed in England by the *Encyclopaedia Metropolitana*, and the *Encyclopaedia Britannica*, the former being divided systematically, and the latter containing substantial treatises on the important subjects, though in alphabetic order.

In France there followed the notable systems of André Marie Ampère, the eminent scientist, of Antoine Augustin Cournot, another noted scientist, and of Auguste Comte, the last being the most important historically as establishing a valid order of fundamental sciences: mathematics, astronomy, physics, chemistry, biology, and sociology. He also discriminated the abstract from the concrete.

Herbert Spencer in England, historic systemist, misapplied Comte's contrast of abstract to concrete by dividing all sciences on the basis of these two distinct but inherently related terms for all sciences abstract from concrete objects of data, and the supposed "concrete" sciences have their abstract concepts in their generalizations. But in developing and expounding Comte's principle of gradation from the more general to the more special sciences and studies Spencer indicated a valid ground for classifying and systemizing the fundamental sciences and the subordinate studies, or sub-sciences.

Comte and Spencer were followed in France by Edmond Goblot and Edouard Naville (1901) and in England by Alexander Bain (1870) and Karl Pearson (1892). These systemists applied cross-classification more explicitly, as did also Stadler in Germany in 1896, and Tomáš Masaryk in 1886 in Czechoslovakia, of which he was later president. But these systems were all impaired by untenable divisions on ultrarational principles. More satisfactory orders in the objective naturalistic view were proposed in America by Charles W. Shields (1882) and by Ernest Cushing Richardson (1912).

Subjective and psychological distinctions were developed by the Italian philosopher, Antonio Rosmini-Serbati in 1830, by William Whewell in England in 1840, and by Hugo Münsterberg for the Congress of Arts and Science at St. Louis in 1904. The results were neither real nor ideal, neither objective nor valid; and they were inapplicable and confusing.

Richardson's classification had been made:

CONSPECTUS OF THE SYSTEM OF KNOWLEDGE

PHILOSOPHY.	SCIENCE, KNOWLEDGE.	HISTORY.	APPLIED KNOWLEDGE.
Metaphysics: Epistemology, Knowledge in general; Science in general.		History of Philosophy and Science.	
Ontology, Philosophy of Entity.	<i>Abstract Sciences and General Methods:</i> Logic, Mathematics, Metrology, Statistics.		
Philosophy of Nature.	<i>Natural Sciences:</i> <i>Physical Sciences:</i> Physics, Chemistry.	History of Natural Science, of Physical Science, of Physics, etc.	<i>Technology:</i> Physical, Engineering; Chemical.
Cosmology.	<i>Special Natural Sciences:</i> Astronomy, Geology, Geography, Physical, Human, and Historical; Meteorology.	Historical Geology.	<i>Applied Sciences:</i> Economic Geology, Economic Geography.
Philosophy of Life.	<i>Biological Sciences:</i> Biology, Botany, Zoölogy.		
Philosophy of Human Life.	<i>Anthropological Sciences:</i> Anthropology. Physical: <i>Medical Sciences.</i>	Human Studies and "Humanities." History of Mankind and of Human Life.	Hygiene, and Medical Practice.
Philosophy of Mind.	<i>Psychological Sciences:</i> Psychology: General and Comparative, Individual, Abnormal, Social and Racial.	Archaeology.	Applied Psychology: Psychiatry, Psychology of Education. Education, Teaching.
Philosophy of Social Life.	<i>Social Sciences:</i> Sociology: Social Anthropology, Ethnology, Culture.	Social-political History.	Applied Social Science.
Theology.	Religion.	History of Religions, Mythology.	Applied Religion and Church-work.
Ethics.	Morals.	History of Morals.	Applied Ethics.
Political Philosophy, Philosophy of Law, Philosophy and Science	Political Science. Jurisprudence, and the Science of Economics.	Political History. History of Law. Economic History.	Government, Politics. Practice of Law. Applied Economics, Economies, Industries, Business.
Aesthetics. Criticism.		History of Arts: Industrial, Aesthetic, "Fine": Music.	<i>Arts:</i> Technic of Arts. Industrial, Aesthetic, "Fine": Music. Printing. Rhetoric and Oratory.
Philosophy of Drama.	<i>Philology: Language and Literature:</i> Linguistics, Languages, Dramatics, and the Literature, and the Bibliography, Bibliography, Libraries.	History of Languages. History of Drama. History of Literatures. History of Books. History of Libraries.	Theatre, Theatricals. Writing, Literary. Publishing, Journalism

plicable to the Princeton University Library. He knew the faults of his predecessors, as he was a well credited historian of the problem. Meanwhile an objective, valid, and applicable order of the sciences had been gradually projected by the American Association for the Advancement of Science in organizing the sessions of its fifteen sections and arranging their programs. Yet it was not free from faults. However, it was so far one of the least inadequate as regards validity and applicability, the others being those of Wundt, Shields, Richardson, and Ostwald. But even these had obvious faults and inconsistencies.

In the long history of the problem nearly fifty systems proposed by philosophers and scientists from Plato and Aristotle to Wundt and Ostwald had been found faulty, inconsistent, and unavailable for the organization and systemizing of knowledge in associations, libraries, and bibliographies. The problem remained unsolved.

In the first decade of the present century the writer of this article, finding the classifications established in libraries inadequate and inefficient, was enabled and encouraged to undertake a thorough study of the problem and to develop a systematic classification based on valid principles and elaborated for use in libraries and bibliographies. An outline of his proposed system was published in 1910. The results of the study were published in 1929 and 1933 in his two books on the organization of knowledge in the sciences and in libraries. The system, condensed in one volume, followed in 1935; and this was expanded in three volumes issued in 1940, 1947, and 1953. A synopsis of it is shown on the preceding page.

In the writer's opinion "the System of Knowledge" is a term more valid and comprehensive than the historic name for this problem, "the classification of the sciences." Classification of data and of studies is basic to scientific method; and there is classification in the sciences more truly than of the few classes, or groups, of sciences: abstract, natural, physical, biological, psychological, social, and others; also fundamental, derivative, sub-sciences, composite sciences, and applied sciences.

Cross-classification moreover avails whereas the several sciences and studies have special philosophy and methodology, study and teaching; special histories, theories, technologies and applications.

Special sciences depend on more general sciences, which are applied in them. Conversely the more general sciences partake of the findings of special sciences, some becoming thus composite, like geography, anthropology, and medical science. So there is gradation from the more general to the more special sciences, studies, and technologies, while there is also interrelation within the system. There should be consistency, where feasible, with the order of nature, where discerned in conformities, recurrences, developments, and symmetries. There should moreover be adaptability to the several diverse views, where feasible.

The Value of Humanized Knowledge.—The sustenance, the economy, and the welfare of human life depend on organized and socialized knowledge and on its purposive social application to the economic problems, the political affairs, and the amelioration of human relations and social conditions. Humanized knowledge should be disseminated in education, in social communication, in religious and ethical teaching, in

journalism and literature, in drama, in the arts and in entertainments, thus conducing to mental health, sane thinking, right conduct, civilization and intelligent culture. In the professions, industries, agencies, and institutions organized knowledge is essential to efficiency and successful management.

Knowledge, thought, and purpose are organized in minds individual and communal. Through education social or communal knowledge, thus organized, tends to become systematic, and thus unitary, as real systems in constitutive relations are comprehended in the conceptual universe. Organized human purpose extends ultimately, we may reasonably believe, to teleological divine purpose in the world.

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HENRY EVELYN BLISS,

Author of "The Organization of Knowledge and the System of the Sciences"; "A Bibliographic Classification."

KNOWLES, nölz, Frederic Lawrence, American poet: b. Lawrence, Mass., Sept. 8, 1869; d. Boston, Mass., Sept. 20, 1905. He was educated at the New Hampshire Conference Seminary of which his father, Daniel C. Knowles, was president for many years. After graduation he taught for some time in his father's seminary and at Wesleyan University and Harvard. His verse attracted attention even in college days. His poems appeared in the best magazines and received wide quotation. The week before he died he wrote:

"This body is my house—it is not I,
Triumphant in this faith I live and die."

He was the author of *Love Triumphant* (1904); *On Life's Stairway* (1900). He compiled and edited several collections of poetry the most important of which are *Poetry of American Wit and Humor* (1899); *Cap and Gown College Verse—Second Series* (1900); *Golden Treasury of American Songs and Lyrics* (1901); *Yearbook of Famous Lyrics* (1901); *Treasury of Humorous Poetry* (1902); *Value of Friendship* (1904); *Value of Courage* (1905); *Value of Love* (1906).

KNOWLES, James Sheridan, Irish dramatist and actor: b. Cork, Ireland, May 21, 1784; d. Torquay, Devonshire, Nov. 30, 1862. He served as an ensign in the militia, became an M.D. of Aberdeen University, and then went upon the stage, but meeting with small success.

aught school in Belfast and Glasgow. His tragedy of 'Caius Gracchus' was performed at Belfast in 1815 with success, and from this time he had a prosperous career. He visited the United States in 1834. In 1844 he underwent conversion and became a Baptist; he then took a prominent part in the work of religious revival, became known as an anti-Roman Catholic controversialist, but never preached against the stage. In 1848 he received a pension of £200 a year from government. Among his principal works are the dramas 'Caius Gracchus' (1815); 'William Tell' (1825); 'Virginus' (1820); 'The Hunchback' (1832); 'The Wife: a Tale of Mantau' (1833); 'The Love-chase' (1837); 'Love' (1839). He published besides various poetical pieces, tales and novels, and in his later years works denunciatory of Roman Catholicism.

KNOWLES, Lucius James, American inventor: b. Hardwick, Mass., 2 July 1819; d. Washington, D. C., 25 Feb. 1884. He became a clerk in a shop at Shrewsbury, Mass., the first photographer using the system of Daguerre in Worcester, Mass., turned his attention to inventing, devised the Knowles safety steam-boiler feed-regulator, and constructed and operated several models of steam-engines. In 1843 he invented a machine for the spooling of thread, and this machine he manufactured at New Worcester in 1843-45. He then built spinning-machines for the manufacture of four- and six-cord thread, and manufactured cotton thread and warps at Spencer and Warren, Mass. (1847-53), and woolen goods at Warren (1853-59). Subsequently he manufactured a safety boiler-feeder, a steam pump and a tape loom, under his own patents. He took out over 100 patents, mostly for loom improvements. His plant for the manufacture of looms and their accessories was located at Worcester, Mass., where it was later combined with an English concern and now, under the name Crompton and Knowles Loom Works, has branches in all parts of the world. The Knowles Pump Works, too, have grown to be one of the largest in the world. He was elected to the lower house of the Massachusetts legislature in 1862 and 1865, and in 1869 became State senator. Williams College in 1865 gave him the degree of A.M. Consult Roe, A. S., 'Lucius J. and Francis B. Knowles' (in *New England Magazine*, N. S. Vol. XXXI, p. 483, Boston 1904).

KNOWLES, Robert Edward, Canadian novelist: b. Maxville, Ontario, 30 March 1868. He is a graduate of Manitoba College and of Queen's College, Kingston, was appointed minister of Stewart on Church, Ottawa, 1891, and from 1898 has been pastor of Knox Church, Galt, Ontario. He is the author of 'St. Cuthbert's' (1905); 'The Undertow' (1906); 'Dawn at Shanty Bay' (1907); 'The Attic Guest' (1909); 'The Singer of the Kootenay' (1911); 'The Handicap.'

KNOWLING, nō'ling, Richard John, English clergyman and educator: b. Devonport, Devonshire, 16 Sept. 1851. He was educated at Balliol College, Oxford, and was ordained deacon in 1875 and priest 1876 in the Church of England. He was classical master in the Abingdon Grammar School, 1874-76; curate of

Wellington Somerset, 1876-78 and of Saint Martin-in-the-Fields, London, 1878-84; censor and lecturer in King's College, London, 1884-90; vice-principal of King's College, 1890-97; professor of New Testament exegesis 1894-1905; professor of divinity in Durham University and canon of Durham since 1905. He was select-preacher at Cambridge University 1895; and became Fellow of King's College, London 1899. He was examiner at Oxford University 1897, 1905, and at the University of London 1905-06; examining chaplain to the archbishop of Canterbury and the bishop of Exeter, 1903-05, and Boyle lecturer for the same period. His writings include 'The Witness of the Epistles' (1892); 'Acts of the Apostles,' in the 'Expositors Greek Testament' (1901); 'Our Lord's Virgin Birth and the Criticism of Today' (1903); 'The Epistle of Saint James' (1904); 'The Testimony of Saint Paul to Christ' (1905; new ed., 1911); 'Literary Criticism and the New Testament' (1907); 'Messianic Interpretations and Other Studies' (1911). He died 4 July 1919.

KNOWLTON, Frank Hall, American botanist: b. Brandon, Vt., 2 Sept. 1860; d. Ballston, Va., 22 Nov. 1926. He was graduated from Middlebury College, Vt., in 1884, and in 1898 took the degree of Ph.D., George Washington University; was assistant palæontologist on the United States Geological Survey, 1889-1900, and palæontologist from 1900 to 1907, and geologist from the latter year. Among his scientific monographs are 'Fossil Wood and Lignite of the Potomac Formation' (1889); 'Fossil Flora of Alaska' (1894); 'Catalogue of the Cretaceous and Tertiary Plants of North America' (1896); 'Fossil Flora of the Yellowstone National Park' (1898); 'Flora of the Montana Formation' (1900); 'Birds of the World' (1909); 'Flora of the Raton Mesa Region of Colorado and New Mexico' (1916); 'Flora of the Laramie of the Denver Basin of Colorado' (1916). *The Plant World*, which he had founded in 1897, he edited until 1904. He was a contributor to the Century, Standard and Webster's dictionaries and to the Jewish 'Encyclopædia.'

KNOWLTON, Thomas, American soldier: b. West Boxford, Mass., 30 Nov. 1740; d. battle of Harlem Plains, N. Y., 16 Sept. 1776. He enlisted in the last French and Indian War, took part in the capture of Ticonderoga (1759), and in 1762 went with General Lyman's forces to Cuba as second lieutenant. After the siege of Havana he took up farming. Living at Ashford, Conn., at the beginning of the Revolution, he was elected captain of a militia company organized after Lexington, and with 200 other Connecticut troops was sent to Charlestown. His detachment, ununiformed farmers with shot-guns, fought at Bunker Hill. On 8 Jan. 1776 he made a successful invasion of Charlestown, and subsequently became lieutenant-colonel of the 20th regiment and then of a regiment of Connecticut rangers, usually known as "Knowlton's Rangers." He was killed while leading his command at the battle of Harlem Heights, and was highly praised by Washington in general orders. A statue was erected to his memory by his State in 1895 on the capitol grounds at Hartford. Consult

Coffin, C., ed., 'The Lives and Services of Major-General J. Thomas, Colonel Thomas Knowlton, etc.' (New York 1845); Woodward, A., 'Memoir of Col. T. Knowlton' (Boston 1861); Woodward, P. H., and others, 'Statue of Col. Thomas Knowlton' (Hartford 1895).

KNOW-NOTHING PARTY, The, resulted from nativism in American politics and from the organization of secret political associations such as the United American Mechanics and the Order of the Sons of America in Pennsylvania; the Order of United Americans and the Order of the Star Spangled Banner in New York, founded for the purpose of obtaining the repeal of the Naturalization Law and of the law which permitted others than native Americans to hold office. As a definite political party it may be said to have started in 1852 and existed two or three years. The principles of the Know-nothing party were embodied in the following propositions (at New York, 1855): (1) The Americans shall rule America. (2) The perpetuation of the union of these States. (3) No North, no South, no East, no West. (4) The United States of America—as they are—one and inseparable. (5) No sectarian interferences in our legislation or in the administration of American law. (6) Hostility to the assumption of the Pope, through the bishops, etc., in a republic sanctified by Protestant blood. (7) Thorough reform in the naturalization laws. (8) Free and liberal educational institutions for all sects and classes, with the Bible, God's holy word, as a universal textbook. A society was formed in 1855 in opposition to the above, called Know-somethings. Both bodies were absorbed into the two parties, Democrats and Republicans, at the Presidential election in 1856.

The Know-nothing organization was primarily the result of foreign emigration. In 20 years from 1825 to 1845 the immigration amounted to 1,028,225. The consequence was a sharp awakening of native American prejudice and alarm. The sentiment first showed itself in New York, where the alien population had reached portentous proportions, in the estimation of citizens of the old stock. A native organization for political purposes was effected, and in 1844 it succeeded in electing James Harper mayor on a native American ticket. About this time began the great immigration due to the Irish famine, and in the five years from 1845 to 1850 there came in about as many aliens as had been received during the whole 20 years before. Native Americanism flamed up hotter than ever, and its political conflagration extended to other cities and States. The great volume of the Irish immigration was Roman Catholic, and animosity to that Church gave it fire. At Philadelphia two Roman Catholic churches were destroyed in riots between natives and Irish; at Boston a convent was burned. Six native American representatives were elected to the 29th Congress, that of 1845, four from New York and two from Pennsylvania. Between 1850 and 1855 the immigration amounted to nearly 2,000,000, and the native spirit was aroused even more hotly. Moreover, the anti-slavery agitation, expressing itself in opposition to the extension of slavery to the Territories, was disturbing party allegiance, and special efforts were made to kindle the native

American spirit into a hot flame, with an ulterior motive, it was believed, of turning the current of public sentiment into other channels.

In 1852 the Know-nothing organization, distinctly, made its appearance. It was so-called because it was a secret oath-bound fraternity regarding whose objects and whose real name its members always answered when questioned "I don't know." "Americans must rule America!" was its rally cry, and relentless hostility to the increasing power of the Roman Catholic Church and a demand for the extension of the qualification for naturalization to a residence of 21 years were its main purposes. The Know-nothings started off brilliantly. In 1854 they carried the State elections in Massachusetts and Delaware, and polled a great number of votes in New York. In 1855 they elected governor and legislatures in New York and four New England States, and in the South and West they were successful or nearly approached success in nine States. In 1856 eight of the 31 States had native American governors, but in the Presidential election of that year the party cast only about one-fifth of the popular vote and obtained only eight electoral votes, the votes of the single State of Maryland. In the 34th Congress, 1855, it had 5 senators, 43 out-and-out Know-nothings as Congressmen and 70, nominally Republicans, but members of Know-nothing councils. In the 35th Congress, 1857, it had 5 senators and 14 representatives. In the next Congress it had 2 senators and 23 representatives, all of them from Southern States. Soon thereafter Know-nothingism went to pieces rapidly and no more of it was heard in politics. It had no representation in Congress after the 36th. Amongst its most determined opponents were Henry Ward Beecher and Horace Greeley. (See also AMERICAN PARTY). Consult Carroll, A. E., 'The Great American Battle' (New York 1856); Cluskey, M. W., 'Political Text-Book and Encyclopedia' (Philadelphia 1860); Cross, I., 'The Origin, Principles and History of the American Party' (in *Iowa Journal of History and Politics*, Vol. IV, p. 526, Iowa City 1906); Davis, H. W., 'Speeches and Addresses' (New York 1867); Desmond, H. J., 'The Know-Nothing Party' (Washington 1904); Gay, C. M., 'The Campaign of 1855 in Virginia and the Fall of the Know-Nothing Party' (in *Richmond College Historical Papers*, Vol. I, p. 309, Richmond 1906); Haynes, G. H., 'Causes of Know-nothing Success in Massachusetts' (in *American Historical Review*, Vol. III, p. 67, New York 1897); id., 'A Know-nothing Legislature; Mass., 1855' (in *American Historical Association, Annual Report for 1896*, Vol. I, p. 175, Washington 1897); Hutchinson, E., 'Young Sam'; or Native Americans' Own Book' (New York 1855); McMaster, J. B., 'Riotous Career of Know-nothingism' (in *Forum*, Vol. XVII, p. 524, New York 1894); Rhodes, J. F., 'History of the United States, 1850-1877' (Vol. II, New York 1893); Schmeckebier, L. F., 'History of the Know-Nothing Party in Maryland' (in *Johns Hopkins University Studies in Historical and Political Science*, Series XVII, Nos. 4-5, Baltimore 1899); Scisco, L. D., 'Nativism in New York State' (New York 1901); Senning, J. P., 'The Know-nothing Movement in Illinois, 1854-56'

in *Illinois State Historical Society Journal*, Vol. VII, p. 7, Springfield 1914); Stickney, C., *Know-Nothingism in Rhode Island* (in *Papers from Historical Seminary, Brown University*, Vol. III, Providence 1894); Wise, H. A., *Religious Liberty, etc.* (Alexander, Va., 1854); d., *The Life and Death of Sam, in Virginia* (Richmond 1856); Woodburn, J. A., *Political Parties and Party Problems in the United States* (New York 1914).

KNOX, nōks, Frank (William Franklin), American soldier, journalist and statesman: b. Boston, Mass., 1 Jan. 1874; d. Washington, D.C., 28 April 1944. His parents had emigrated from St. John, New Brunswick, Canada, shortly before his birth. During his boyhood the family moved to Grand Rapids, Mich., where Frank Knox received his primary education in the public schools. In 1898 he was graduated from Alma College, Michigan, with the degree of Bachelor of Arts. On 4 June 1898 he enrolled in the First Regiment, United States Volunteer Cavalry, better known as the Rough Riders, and with that organization participated in several engagements in the Spanish American War, notably the battle of San Juan Hill, Cuba. He continued his interest in military affairs by serving on the staffs of the governors of Michigan and New Hampshire at various times, and as president of the Military Training Camps Association of New Hampshire in 1917. On the entry of the United States into the First World War in April 1917, he enlisted in the First New Hampshire Infantry, went overseas as a captain in the 78th Division, and later transferred to the 153d Field Artillery in which he rose to the rank of lieutenant colonel before the end of the war. He took part in the St. Mihiel and Meuse-Argonne offensives.

He began his professional career as a journalist in 1898 when he joined the Grand Rapids, Mich., *Telegram* as a reporter immediately after the close of the Spanish American War. His journalistic and publishing successes followed the traditional pattern from then on, culminating in his acquisition in 1931 of the *Chicago Daily News* which he brought to a high state of prosperity and influence. He was also the publisher and part owner of the *Manchester, N.H., Leader and Union*. From 1927 to 1931 he was the general manager of the Hearst Newspaper System.

Knox, throughout his life, took an active part in politics, although he never held an elective office. He belonged to the liberal wing of the Republican Party but left the party to follow Theodore Roosevelt in the Bull Moose campaign of 1912. He returned to the party in 1916 and resumed his role as an active committee worker. The climax of his strictly political career came at the 1936 Republican Convention in Cleveland when he was chosen as the candidate for Vice President with Alfred M. Landon as the presidential nominee. The election, however, was a Democratic landslide—the Republicans carrying only Maine and Vermont.

Knox was appointed secretary of the navy by President Franklin D. Roosevelt in July 1940, and held the office until he died in 1944. By departing from tradition in appointing to this important office a member of the opposing party who had bitterly denounced him and his New Deal policies, the President brought to the attention of the country in the most striking manner possible the concern with which he viewed the

war which had started in Europe in September 1939. Knox had just the qualities of mind and temperament that were most needed to prepare the navy for the entry of the United States into the Second World War, 18 months later, and to bring the navy through the most critical period of the war. He had the wisdom to leave technical and strategic decisions to professional naval officers, but he provided the necessary vision and the driving force to get the enormous expansion program with which the navy was confronted into full swing without delay. He appreciated especially the importance of stimulating the morale of the civilian employees, the enlisted man, and the officers of the navy, and of cultivating sympathetic press relations. His handling of public relations after the attack on Pearl Harbor was particularly effective. In less expert hands the situation might easily have led to loss of confidence by the country in the navy, with consequent lowering of the efficiency of the navy itself.

He married Miss Annie Reid of Alma, Mich., in 1898. There were no children.

J. A. FURER,

Rear Admiral, United States Navy.

KNOX, Henry, American general and statesman: b. Boston, Mass., 25 July 1750; d. Thomaston, Me., 25 Oct. 1806. He was the seventh son of William Knox, of Scotch extraction, who settled in Boston and became a shipmaster. After the father's death in 1762, the son was employed by a Boston bookseller, and in 1771 he opened a bookstore of his own. When a young man he threw in his lot with the patriot cause and spent his leisure studying books on the military art, supplementing his reading by observing and questioning the British officers stationed in Boston. He also joined a military company and, upon its organization, became second in command of the Boston grenadier corps. He was interested in athletics and sports and, in 1773, while hunting, lost two fingers of his left hand. His marriage (16 June 1774) to Lucy Flucker, the daughter of an aristocratic Loyalist of Boston, did not prevent him from joining the Colonial Army at the outbreak of hostilities in the spring of 1775. He fought in the battle of Bunker Hill, acting as aide of General Ward, and then aided in constructing the defenses of the camps around Boston. The army being in pressing need of artillery, Knox proposed to Washington the plan of bringing heavy cannon and stores from Fort Ticonderoga near the Canadian frontier. He set out (15 Nov. 1775) on this perilous enterprise with a squad of mounted men. In the face of great difficulties he succeeded in getting 55 (by some accounts 59) guns, loaded them on sleds, with 23 boxes of lead and a barrel of flints, and reached Cambridge in safety (24 Jan. 1776). For this brilliant exploit he was warmly complimented by Washington. After his return he received his commission as colonel of the one artillery regiment, the appointment having been made by the Continental Congress (17 Nov. 1775). The cannonade of Knox's batteries (on the nights of 1-4 March 1776) enabled General Thomas to take possession of Dorchester Heights, which resulted in the evacuation of Boston by the British forces. In the summer of 1776 he was stationed at New York City with Washington, who found him a true friend and an able

officer. In December he was promoted to brigadier general of the artillery. He distinguished himself in the battles of Trenton and Princeton and took part in the engagements at Brandywine, Germantown and Monmouth. He helped (May 1777) General Greene in planning the defenses of the Hudson River. In the trying winter of 1777-78 he was in camp at Valley Forge, with his young wife. Many of Washington's letters refer to Knox in terms of high appreciation. He rendered valuable service in the operations against Cornwallis in October 1781, his skill as an artilleryman being praised by the Frenchman, De Chastellux. He was made major general (22 March 1782) and appointed to the command at West Point (29 Aug. 1782). Upon him devolved the delicate task of disbanding the army late in 1783. He had already formed the Society of the Cincinnati (q.v.) to keep alive the friendships of officers formed during the war.

Congress appointed Knox Secretary of War (8 March 1785), a position he worthily filled for 10 years. In 1794 he was also at the head of the Navy Department, just organized. Owing to insufficient salary, he resigned from Washington's Cabinet (2 Jan. 1795). His remaining years were passed on his estate, Montpelier, near Thomaston, Maine. Consult Brooks, N., *Henry Knox, a Soldier of the Revolution* (New York 1900); Drake, F. S., *Life and Correspondence of Henry Knox* (Boston 1873); Lindley, E. M., «Montpelier, Home of Major-General Henry Knox» (in *Magazine of American History*, Vol. XVI, p. 121, New York 1886); Stimpson, M. S., «Thomaston—The Home of Knox» (in *New England Magazine*, N. S. Vol. XXI, p. 730, Boston 1904).

KNOX, John, Scottish Protestant reformer: b. Giffordgate, Haddington, Scotland, 1505; d. Edinburgh, 24 Nov. 1572. (The Society of Antiquaries of Scotland discussed the subject of his birthplace in 1858, when Mr. John Richardson of Haddington brought forward evidence that he was born in Giffordgate, a suburb of Haddington, and not in Gifford, a village near that town. He was supported in this view by Mr. Laing, the editor of the reformer's works). After receiving his preliminary education at the grammar school of Haddington, he went in 1521 to the University of Glasgow, where for several years he studied scholastic philosophy and theology. Noted as a master of dialectic subtleties, he was ordained prior to 1530 and became a teacher of philosophy at Saint Andrew's. The study of the fathers, especially of Jerome and Augustine, had shaken his religious opinions as early as 1535, but it was not till 1542 that he became an avowed and marked reformer. The long period of silence, before in mature age he explained his views with completeness, has been regarded as proof that he was naturally of a prudent and peaceful disposition and not a turbulent partisan, as his after career would indicate. His reprehension of certain practices of the Church caused him to retire from Saint Andrew's to the south of Scotland, where he was declared a heretic. After the death of his friend, George Wishart, he remained in retirement till he took refuge with many other Protestants (1547) in the castle of Saint Andrew's, which the regent was vainly attempting to reduce. There for the first time he became known

as a powerful preacher against the papacy. The regent, re-enforced by a French squadron, obliged the garrison to surrender. The terms of the capitulation were violated, and Knox with his comrades was transported to France, where he was imprisoned in the galleys for 19 months. He experienced extreme hardships, and on his release (1549) directed his course to England, where he was appointed to preach at Berwick and at Newcastle and became one of the chaplains of Edward VI. For the boldness of his discourses he was several times called to account, but was able to vindicate himself. A bishopric was offered to him, but he declined it from scruples as to the divine authority of the episcopal order. On the accession of Queen Mary he fled from England to Dieppe and passed thence to Geneva, where, after taking part in the memorable troubles at Frankfort and after a short visit to Scotland, he became pastor (1556) of a small English congregation. The two years of his residence in Geneva, in the society of Calvin, Beza and other learned men, were among the happiest of his life. While in Scotland he had been cited to appear before an assembly of the clergy to be held at Edinburgh, and after his return to Geneva the citation was renewed and he was condemned to be burned as a heretic and the sentence was executed on his effigy. Against this condemnation he published the *Appellation of John Knoxe*. He also wrote a tract entitled the *First Blast of the Trumpet against the Monstrous Regiment of Women* (1558), a vehement attack on the political government of women, at a time when Mary of Guise was regent of Scotland and Mary Tudor Queen of England, and the nearest in succession to both thrones were females. Invited by the Scottish Protestants to resume his labors in his native country, he landed at Leith in 1559. The Queen regent had laid her plans for the forcible overthrow of the reformation. At a convention of the nobility and clergy in Edinburgh all the demands of the Protestants were refused. Several of the reforming preachers were summoned to appear at Stirling for trial, but by the dissimulation of the regent were prevented from attending and then outlawed for their failure. Knox hastened to meet them at Perth, where he preached against the «idolatriy of the mass» and the veneration of images. At the conclusion of the service there was a violent outbreak. The images in the churches were demolished, the pictures torn from the walls and trampled under foot, the holy recesses invaded and the «rascal multitude,» as Knox calls them did not stop till they had sacked and laid in ruins the houses of the Dominican and Franciscan friars and the Carthusian monastery. The Queen regent advanced upon Perth with an army, but, finding the Protestants well prepared for resistance, proposed terms of accommodation which were accepted. The Protestants, in order to consolidate their strength, formed a religious bond or covenant and began to be distinguished as the congregation and their leaders as the lords of the congregation. Iconoclasm was a prominent feature in the Scottish reformation. Events similar to those at Perth followed at Stirling, Lindores, Cupar, Saint Andrew's and other places. Knox had preached in the cathedral of Saint Andrew's with such success that the magistrates united with the inhabitants in

slating the churches and monasteries and in blishing the reformed worship. Meantime l war raged throughout the kingdom between regent, assisted by French troops, and the ls of the congregation. In political as well ecclesiastical affairs Knox was a conspicuous iser and took up his residence in Edinburgh r an extensive circuit through the southern l eastern counties. After a contest of 12 nth, the vigorous assistance rendered by zabeth and the death of the Queen regent ile the English troops were investing Edin- gh led to a truce and to the summons of Parliament to settle differences. Parliament embled in August 1560, the reformed religion s established and Roman Catholicism inter- ted by law in Scotland. Soon after the arrival the young Queen Mary (21 Aug. 1561) she nmoned the influential and noted reformer her presence. Six interviews are recorded ween him and the Queen, and the questions uch she raised were discussed by him with rude vehemence and rigor, which once drove r to tears. She caused his arrest on a charge treason in 1563, but all the councillors ex- pt the immediate dependents of the court ed for his acquittal. The vehemence of his ublic discourses led him into frequent difficul- s. In 1562 he disputed publicly for three ys with Abbot Quentin Kennedy at Maybole; 1565 he quoted certain texts which gave of- ense to the court and was for a short time ohibited from preaching. He fled from Edin- urgh when the Queen returned from Dunbar ter the death of Rizzio; and he preached a rmon at the coronation of the infant King Stirling (29 July 1567). Under the brief re- ncy of Moray, the work of Knox seemed to e completed, but after the assassination of Moray, civil and religious confusion returned nder the regency successively of Lennox and lar Weakened by a stroke of apoplexy in 570, Knox yet reappeared in the pulpit, but so iolent was the enmity excited by his animad- ersions that he left Edinburgh for Saint An- drews, 5 May 1571. He returned in the fol- owing year and his last energies were put orth in denunciations of the perpetrators of he massacre of Saint Bartholomew's. The doc- trines of Knox embraced a Calvinistic creed and a Presbyterian polity. The «Order of Geneva,» a liturgy which he shared in preparing for the use of the church at Frankfort, and subsequently employed in his congregation at Geneva, was introduced into Scottish Protestant churches in 1565. His character was marked by a stern realism, which could be beguiled by no social pretensions, no conventional dignities, no pom- pous traditions. From this sprang his scornful bitterness and his insensibility to the social graces and refinements which Mary exhibited. He was not a thinker except on political topics. His *History of the Reformation of Religion in the Realm of Scotland* is the best known of his writings. The liturgy prepared by him has been edited by Spratt under the title *The Book of Common Order of the Church of Scotland* (Lon- don 1911). Consult *Lives*, by McCrie (1813); Taylor (1885); Brown, P. H. (1895); Lorimer, John Knox and the Church of England (1875); Carrick, John Knox and his Land (1902); Hart, A. B., «John Knox as a Man of the World» (in *American Historical Review*, Vol. XIII, Lan- caster, Pa., 1908).

KNOX, John, English military chronicler: d. Berwick, England, 1778. He became an en- sign in the 43d Foot, rose to be captain, was present at the sieges of Louisbourg in 1757 and 1758, served in Wolf's forces before Que- bec, and remained in Canada until after the capitulation of Montreal in September 1760. His *Historical Journal of the Campaigns in North America, 1757-60*, is the most valuable first-hand record of the events described that has ever been published. Consult Dr. A. G. Doughty's edition, published by the Champlain Society (3 vols., 1914, 1916).

KNOX, John Barnett, American lawyer: b. Talladega, Ala., 16 Feb. 1857. His education was received at private schools, and after study- ing law, he was admitted to practice in 1878. Ten years later he removed to Anniston, Ala., where he afterward resided, and soon became one of the most prominent lawyers in the state. He took a very important part in state politics, was delegated to Democratic National Conven- tions of 1892, 1896 and 1912 and was twice chair- man of the Democratic State Executive Com- mittee. In the State Constitutional Convention of 1901 he was the president. In the debates of this convention and in the framing of the con- stitution he took an active part. His arguments on the legal problems involved showed that he was a master of constitutional law. He died 7 Feb. 1935.

KNOX, John Jay, American financier: b. Knoxboro, N.Y., 19 March 1828; d. New York, 9 Feb. 1892. He was graduated at Hamilton College in 1849, and was a banker till 1862. In that year he received an appointment from Sec- retary Chase, and subsequently had charge of the mint coinage correspondence of the Treasury Department, becoming in 1867 deputy comptrol- ler of the currency. A bill which he proposed was passed with a few modifications and is known as the Coinage Act of 1873. In 1872 he was appointed comptroller of the currency, re- signing in 1884, to become president of the Na- tional Bank of the Republic, New York. In addition to various reports and addresses on financial subjects he published *United States Notes, a History of the Various Issues of Paper Money by the Government of the United States* (New York 1884, revised 1887). Some years after his death there was brought out by B. Rhodes and E. H. Youngman, his *A History of Banking in the United States* (New York 1900). Consult Chamber of Commerce of the State of New York, *Tribute to the Memory of John Jay Knox* (New York 1892).

KNOX, Philander Chase, American law- yer and statesman: b. Brownsville, Pa., 6 May 1853; d. Washington, D.C., 12 Oct. 1921. Grad- uated, Mount Union College, Ohio, 1872; studied law and was admitted to the bar in 1875. He was assistant United States district attorney for the western district of Pennsylvania in 1876-77; resigning this position he took up the practice of law in Pittsburgh in partnership with J. H. Reed. The firm's practice grew rapidly and Knox became known as one of the most suc- cessful corporation lawyers in the United States; in 1892 he was counsel for Carnegie during the Homestead strike. April 1901 he was appointed Attorney General of the United States and held this office till June 1904 when he became senator from Pennsylvania for the unexpired term of

Sen. Matthew S. Quay, and in 1905 was elected for a full term. He served on the Judiciary Committee and took a prominent part in the debate relating to the Panama Canal. As attorney general he was involved in the antitrust agitation, and in 1902 brought suit against the Northern Securities Company and the so-called Beef Trust on the ground that they were violating federal statutes. In 1908 Senator Knox received 68 votes for the presidential nomination in the Republican National Convention. In 1909 he became secretary of state in President William H. Taft's cabinet and served until 1913, dealing competently with the Bering Sea and the North Atlantic fisheries controversies, and opening the way for what was soon to be called "dollar diplomacy" in South America and China. In 1912 he made a tour of the Latin American countries for the purpose of cementing closer relations between them and the United States. He was reelected to the United States Senate in 1916 for the term 1917-1923, but died while still in office. He was a steadfast opponent of the League of Nations and the Versailles Peace Treaty, arguing that they violated the American constitution. He published *Future of Commerce* (1908); *International Unity* (1910); and *Reciprocity with Canada*.

KNOX, Robert, Scotch writer on Ceylon: b. about 1641; d. London, June 19, 1720. He, together with his father—a commander in the East India Company's service—and 14 others were taken into captivity by the Ceylon natives when forced by storms to put into Cottiar Bay in 1659. His father died in captivity but the son escaped, after several unsuccessful attempts, after 19½ years, to Arippe, a Dutch settlement. The East India Company, in 1680, took him into its service and he made a number of other voyages through the Indian seas, becoming a commander. He wrote a number of letters to his cousin, John Strype, now preserved in the University Library, Cambridge, but most interesting reading is furnished by his account of Ceylon, the first ever written. It is entitled *An Historical Relation of the Island of Ceylon in the West Indies; together with an Account of the detaining in Captivity the Author and divers other Englishmen now living there, and of the Author's Miraculous Escape* (London 1681); it has been translated into Dutch, French, and German.

KNOX, Thomas Wallace, American journalist and traveler: b. Pembroke, N. H., June 26, 1835; d. New York, Jan. 6, 1896. He lost his parents while still a small child and was brought up on a farm, but managed to get enough schooling to become head of an academy at Kingston, N. H., in 1858. He went to Colorado during the gold rush in 1860 and there engaged in journalism and during the Civil War served as volunteer aide, rising to the rank of lieutenant colonel. For a time he acted as war correspondent for the *New York Herald*. After an altercation with Gen. W. T. Sherman, he was courtmartialled and banned from the army. Some of his war letters were published as *Campfire and Cotton Field* (1865). With T. M. Cook he wrote *Horatio Seymour* (1868). He made a journey around the world as a newspaper correspondent in 1866 and again in 1877, and wrote many popular books for young people. He was one of the founders and early officers of the Lotos Club. Among Knox's

published works are *Overland through Asia* (1870); *The Underground World*, (1877); *How to Travel* (1881); *Lives of James G. Blaine and John A. Logan* (1884); *The Life of Robert Fulton, and a History of Steam Navigation* (1886); *Decisive Battles since Waterloo* (1887); *Life and Work of Henry Ward Beecher* (1887); *The Republican Party and Its Leaders* (1892); *Boy Travelers* series, 15 vols. (1880-1894); *The Lost Army* (1894); *Hunters Three* (1895); *In Wild Africa* (1895).

KNOX, William, British official and pamphleteer: b. in Ireland, 1732; d. Ealing, near London, Aug. 25, 1810. He was appointed by Lord Halifax "his majesty's council and provost-marshal of Georgia," and sailed with Henry Ellis, who was appointed governor of the colony. They arrived in Savannah in 1757, but, returning in four years, he became agent in Great Britain for Georgia and East Florida. He suggested a colonized aristocracy and representatives in Parliament, then (1765) wrote two pamphlets defending the Stamp Act, and his services were dispensed with. He was under secretary of state for America from 1770-1782. Lord North (1776) based conciliatory propositions on Knox's views. In 1772 the "reversion of the place of secretary of New York" was granted to him without pay. The province of New Brunswick, Canada was created in 1784 at his suggestion, lands there being granted to the expelled Loyalists. He wrote numerous pamphlets, most important of which were *A Letter to a Member of Parliament, Wherein the Power of the British Legislature and the Case of the Colonists Are Briefly and Impartially Considered* (1764); *The Claim of the Colonies to an Exemption from Internal Taxes Imposed by Authority of Parliament Examined* (1765); these two pamphlets lost him his post. *A Defense of the Quebec Act* passed through two editions in 1774, its year of issue; *Considerations on the State of Ireland* was written in 1778.

KNOX, William Franklin. See KNOX FRANK.

KNOX COLLEGE, a coeducational institution, founded in 1837 at Galesburg, Ill., as Knox Manual Labor College. The school was opened in 1841, and in 1857 the name was changed to Knox College. The original plan for founding and maintaining the school was to secure subscriptions to the amount of \$40,000 and to purchase lands in the Mississippi Valley, at government price, the lands to be resold at profit. Every subscriber who purchased 80 acres of land was given free tuition for one student for 25 years. The productive fund in 1951 was over \$3,200,000. A college of liberal arts only; it grants the A.B. and the B.S. degrees. It has a campus of 35 acres and 14 buildings. famous Lincoln-Douglas debates in 1858 were held on the grounds of this college, a fact fittingly commemorated on Oct. 7, 1898. There is much pride today in the fine music conservatory which grants the B. Mus. degree. Annual rollment is about 800.

KNOXVILLE, nōks'vīl, city, Iowa, an Marion County seat, at an altitude of 910 feet 32 miles east-southeast of Des Moines, served by the Chicago, Burlington and Quincy Railroad. It is the shipping point of a coal mining

stock raising area, and has feed mills, bottling works, and platform window and overall factories. A United States Veterans Hospital is here. Founded in 1845, it was named for the Revolutionary War general, Henry Knox (q.v.), who became secretary of war and first secretary of the navy. The city was incorporated in 1854, and is governed by a mayor and council. Pop. (1950) 7,625.

KNOXVILLE, city, Tennessee, seat of Knox County, at an altitude of 933 feet, situated on the north bank of the Tennessee River, four miles west of the junction of the Holston and French Broad rivers, whose confluence is the head of the Tennessee, and 111 miles northeast of Chattanooga, served by the Louisville and Nashville and the Southern railroads and federal and state highways. It has a municipal airport, completed in 1937, with a scheduled air service, while a slack water navigation channel, nine feet deep, extending along the Tennessee River from Knoxville, at the headwaters of navigation, to Paducah, Kentucky, where the Tennessee joins the Ohio River, 627 river miles away, carries an immense amount of river trade.

The city is a manufacturing and commercial center, in an area noted for scenic beauty. Twenty-five miles to the southeast are the Great Smoky Mountains, and approximately the same distance in the opposite direction is Norris Dam, part of the Tennessee Valley Authority system, and source of hydroelectric power.

Industries.—Situated in a rich agricultural region, Knoxville is a trading center for the livestock, dairy, truck, and poultry farms nearby. Great quantities of burley tobacco are grown in the vicinity and the seasonal tobacco market brings growers and manufacturers into contact. A good season more than 14 million pounds of tobacco are sold at the Knoxville auctions. Coal, iron, marble, and other mineral deposits are near the city, and sand and gravel are found in abundance along the rivers. A plant for crushing iron ore is just outside the city, and nearby is a great aluminum plant. The city also processes iron pyrites, manganese, phosphate rock, borite, and silica. Some of the quarries from which comes the Tennessee marble, an exceptionally fine building material, are within the city limits and others are near the junction of the Holston and French Broad rivers, four miles to the east.

Textiles are the city's most important manufactured item: hosiery, cotton underwear, and gloves are the principal goods in the output of the mills. Marble, furniture, electrical porcelain, cement, and steel products follow. Glass, chemicals, plastics, and plastic articles such as buttons, typewriter keys, and handles are also made in Knoxville factories. The shops and yards of the Southern Railroad provide another source of industrial income.

Power.—The development of the Tennessee Valley Authority hydroelectric system has had a tremendous effect on the power situation in Knoxville. In 1938 the city, which had begun construction of a new electric current distributing system, abandoned that project and purchased from the Tennessee Public Service Company an existing system. A TVA report based on records of the Knoxville Power boards says: "It was estimated that the cost of constructing a new system comparable to the one purchased would have been approximately \$1,000,000 less than the

purchase price. The city decided, however, to cooperate with the Authority, . . . eliminating duplication and costly competition."

The city now buys current from the TVA for distribution to residential, commercial, and industrial consumers. The mayor appoints a nonpartisan power board, consisting of five businessmen of the city, to shape the policies of power administration, and a city engineer is made general manager. The power board's records show increased consumption of current in homes, stores and offices, and industrial plants, rate reductions having caused a sharp upturn in demand, according to the Authority's analysis. Official reports state that in the last June before the city began buying power from the TVA the average residential consumer used 85 kilowatt hours of current which cost him \$3.65; and in the first June following installation of the new system he used 104 kilowatt hours, and the cost to him was \$2.58. Increased industrial use of current was also reported. Knoxville is considered significant as a yardstick on municipal distribution of federally generated power.

Another cheap source of power for those industries incapable of using electricity is bituminous coal from nearby fields in Tennessee, Kentucky, and Virginia. Natural gas, piped in from Louisiana and Texas fields, is rapidly becoming another source of abundant power.

Education.—The public school system is organized in elementary, junior high, and senior high school units, and there are several parochial schools. The county has a strong school system, and operates buses for the pupils' convenience.

The University of Tennessee, situated here (see TENNESSEE, UNIVERSITY OF), goes back to the city's earliest days. It began as Blount College, in 1794, and now has an annual enrollment of over 7,500 students. It has a library, a biological museum, and an art collection. One of the university's several agricultural experimental stations is at Knoxville. The university was the first coeducational institution in the country.

Knoxville College, a coeducational school for Negroes, is also located here. It was founded in 1875 by the United Presbyterian Church of America. Among the buildings on its campus are a memorial chapel and a Carnegie library.

The college and university libraries and the Lawson-McGhee Public Library (1917) are well stocked; the last-named houses a notable collection of books and documents relating to the history of the South.

Buildings and Institutions.—Knoxville has many fine modern buildings, including the central post office and the Church Street Methodist Church (1932), of Tennessee quartzite. The courthouse (1885) is a massive structure, and the First Presbyterian Church (1901), of yellow brick trimmed with limestone, stands on the site donated by James White in the early 1790's. Both White and William Blount are buried in its churchyard. Another grave in this interesting old yard is that of the Rev. Dr. Samuel Carrick, the church's first pastor, and president of Blount College. The original church building was replaced in 1852 by one which later was used as a hospital and barracks by the Union forces during the Civil War.

On Market Street stands the Market House (1897), on a site given to the city by two Knoxville citizens in 1853 for a farmers' market. On the second floor there is a public auditorium.

The oldest building in the city is the frame house of Governor Blount, built in 1792, consisting of two stories, flanked by single story wings. It has old colonial furnishings, and is open to the public several days a week.

Knoxville has several hospitals and a tuberculosis sanitarium. It is also the seat of the Eastern Tennessee Hospital for the Insane and the Tennessee School for the Deaf. Of the city's 250 churches, more than forty are for Negro congregations.

Points of Interest.—Twenty-five miles northwest of Knoxville is Oak Ridge, the atomic city, which sprang from open fields and forests into the fifth largest city in Tennessee in the space of a few years. Oak Ridge is the site of important atomic research in the fields of medicine, agriculture, and industry. The city is open to the public.

Four of the 16 giant dams erected in the TVA system are within 30 miles of Knoxville, TVA headquarters. Norris Dam on the Clinch River, a tributary of the Tennessee, is the oldest dam in the system. Completed in 1936, it is 25 miles northwest of Knoxville. Built of concrete, it stands 265 feet high and is 1,860 feet long. The lake formed by the dam extends 72 miles up Clinch River and 56 miles up Powell River. Total reservoir volume is 2,567,000 acre-feet. The power house has two generating units, each capable of producing 50,400 kilowatts. TVA lakes are designed to serve the three-fold purpose of improving navigational facilities, providing control of floods, and producing power. The lakes in east Tennessee also constitute an important addition to the area's recreational resources. All public parks and commercial recreation facilities are operated by private business, concessioners, or by public agencies other than TVA. Facilities include parks, boat docks, swimming beaches, camps, summer cabins, resort centers, and vistas for sightseeing. Thousands of pleasure craft are in use on the lakes. Except for trout, there is no closed season for fishing on TVA lakes. Most of the dams are open to visitors, except during emergency conditions, and an estimated 27 million persons have visited the various dams.

Twenty-five miles southeast of Knoxville are the Great Smoky Mountains. Piled up along the Tennessee-North Carolina boundary line, this mighty mountain range has 16 peaks over 6,000 feet high, the loftiest of all being Clingman's Dome, with an altitude of 6,642 feet.

The Smokies, once the home of the Cherokee, absorbed quantities of hardy Scotch and English colonists into their innermost depths, and the mountain folk of today, descending almost purely from this stock, have lived their hard working, isolated lives almost uninterrupted by the advances of civilization. However, the Appalachian Trail and park highways have opened new vistas of this fascinating folk, bringing tourists to observe them and, most likely, bringing them to observe the tourists, for the first time.

The Great Smoky Mountains National Park is 54 miles long and 19 miles across at its widest point. It is the most popular park in eastern United States in terms of the number of visitors which totaled, during the fiscal year ending Sept. 30, 1950, 1,744,265 persons. The campaign for its establishment began in 1923 and three years later Congress passed the act by which the park was created. Innumerable species of trees, shrubs,

and small plants are found in the park, and there are bear, deer, fox, wild turkey, ruffed grouse, and many other species of birds, reptiles and fish. The park rangers enforce a strict but reasonable code of rules to guard against fires and to conserve the wildlife of this interesting area.

The Qualla Indian Reservation, adjoining the park on the Carolina side, contains the descendants of Upper Cherokee refugees who fled into the Smokies on the deportation of the Cherokees to Indian Territory in 1838. Knoxville maintains bus service to the park.

History.—Knoxville's first permanent settler was a North Carolinian, James White (1747-1821), a captain of militia during the Revolutionary War and later a brigadier general in the Tennessee militia. He built the first house on Knoxville's site in 1786; it was of logs, and with three smaller cabins was enclosed in a palisade that became known as White's Fort. In 1791 William Blount, as governor of "the Territory South of the River Ohio," made White's Fort the seat of the territorial government. A town site was surveyed, and the name Knoxville was adopted, in honor of Gen. Henry Knox, the first secretary of war under President George Washington.

In 1792 Knoxville became the seat of the newly formed Knox County. In 1796 White was a member of the convention that drafted the constitution of the new state of Tennessee, and later he represented Knox County in the state senate. A Presbyterian, he gave land for Knoxville's first church and for Blount College (1794), of which he was one of the charter trustees.

Within six years of its founding Knoxville established itself as a depot where westward-bound wagon trains stopped for repairs and supplies. In 1792 the *Gazette*, a weekly newspaper which was founded in 1791, expatiated upon the merits of the town as a strategic point in trade with the Cherokees and other Indian tribes. It said goods from Philadelphia and points south could be laid down at Knoxville as cheaply as similar shipments could be moved between Philadelphia and Fort Pitt (Pittsburgh), and that the route via the Holston and Tennessee rivers was "shorter and safer than from Fort Pitt down the Ohio and up the Tennessee."

Knoxville had the honor of becoming Tennessee's first capital on that state's admittance into the Union in 1796. From 1812 to 1817 the government removed to Nashville, returning to Knoxville the following two years, removing again to Murfreesboro, and returning permanently to Nashville in 1843.

In 1861 the Confederate forces in East Tennessee made Knoxville their headquarters, and hundreds of persons loyal to the Union were sent to prisons further south. In 1863 the Confederates moved out and a Union army moved in, and in November of that year the Battle of Fort Sanders (see KNOXVILLE, SIEGE OF) was fought. The city was badly damaged in these operations, but after the war it was quickly restored, and entered upon a period of industrial development making use of the natural resources with which its environs are richly endowed.

Government and Population.—Knoxville adopted the commission form of government in 1911, and the city-manager plan in 1923. Upon authorization of the Tennessee General Assembly in 1947, a mayor and council government became effective on Jan. 1, 1948. In 1860 Knox-

ville's population was less than 3,000, but after the annexation of East Knoxville in 1868, the census of 1870 reported a population approximating the 10,000 mark. Between 1890 and 1900 as a result of further annexations, the count rose from 22,535 to 32,637, and when several incorporated suburbs and some unincorporated areas were merged with the city in 1917, the next census, that of 1920, gave the city a population of 77,818. The population in 1950 was 124,769, making Knoxville the fourth largest city in the state of Tennessee.

KNOXVILLE, Siege of. On Nov. 3, 1863, before the battle of Chattanooga (q.v.), Gen. Braxton Bragg sent Gen. James Longstreet to capture or destroy the Union Army under Gen. Ambrose E. Burnside at Knoxville. The next day Longstreet moved from Tyner's Station with the divisions of Gen. Lafayette McLaws and Gen. John Bell Hood, two artillery battalions and Gen. Joseph Wheeler's cavalry, and on November 14 crossed the Tennessee near Loudon. After the engagement at Campbell's Station (q.v.), Burnside resumed his march, reaching Knoxville on the morning of November 17, Longstreet closely following and laying siege to the town. The town had been thoroughly fortified, the line of defense extending from the Holston River on the left, a double line of works fronting west, a strong work called Fort Sanders on the northwest salient and a line from that point across the railroad and again to the right as far as the river. On the south side of the river were some detached works connected with the town by a pontoon bridge. On the night of November 16 communication with Cumberland Gap was cut and by the night of the 18th the siege was well established. Longstreet believed he could starve out Burnside and compel his surrender but Gen. Ulysses S. Grant's success at Chattanooga rendered Longstreet's position critical, wherefore he resolved to carry the works by assault. On the night of November 28 he advanced his sharpshooters to within rifle range of the Union defenses and prepared a column to attack Fort Sanders. Early the next morning the assaulting party of three brigades approached unharmed to within 100 yards of the fort. At dawn Longstreet opened a furious artillery fire and a half hour later his columns charged the fort. The Union troops had placed in front of the fort an abatis and entanglements of wire, on reaching which the forward Confederates became confused, but the heavy mass behind them pushed resolutely onward and some gained the ditch and the parapet. The Union guns then opened up with triple charges of canister and the infantry shot down the defenseless Confederates in the ditch, which soon was piled high with dead and wounded. After a long fight Longstreet withdrew with a loss of 1,000 killed, wounded and prisoners, while Burnside lost only 13 killed and wounded. Meanwhile Gen. William T. Sherman had been sent from Chattanooga with reinforcements for Burnside and as Sherman's advance prevented his junction with Bragg, Longstreet on the night of December 4 passed around the north side of Knoxville and took up his line of march to Holston, Sherman reaching Knoxville the same day. A force was sent after Longstreet but it proved inadequate to cope with him and accordingly he moved without hindrance to the south side of the Holston where during the winter he continued to harass the Union troops in Tennessee, in the spring

joining Gen. Robert E. Lee for the campaign of 1864. Meanwhile at his own request Burnside was relieved from duty and on December 11 the command was formally transferred to Gen. John G. Foster. Sherman left a part of his troops at Knoxville and returned with the rest to Chattanooga.

KNUDSEN, nōōd's'n, **William S.** (originally SIGNIUS WILHELM PAUL KNUDSEN), American industrialist: b. Copenhagen, Denmark, March 25, 1879; d. Detroit, Mich., April 27, 1948. He was educated in the government technical school in Denmark and later served an apprenticeship there as a bicycle mechanic. When he came to America in 1899, he began his career in shipyards and in many shop jobs gradually attaining supervisory rank. He entered the employ of Henry Ford in 1911 and was put in charge of the planning of the assembly line plants. Subsequently he was manager of production of the Model "T" Ford car. In 1922, he joined the Chevrolet Motor Company as vice president, later becoming president, and in 1933 he was appointed executive vice president of the General Motors Corporation with supervisory control of all automobile and body manufacturing activities. In 1937, he became president of General Motors.

During World War II, he was called upon by the United States government to put his production genius at the service of the nation. He was a member of the Advisory Committee to the National Defense Commission, 1940, and director general, Office of Production Management, 1941. As a lieutenant general, United States Army, he directed and coordinated the production of equipment for the War Department. He resigned in July 1945 to return to private industry. He is credited with a large part in the origin of the assembly line and is often referred to as the "mass production genius of American industry."

KNUDSON, nōōd'sōn, **Albert Cornelius**, American theologian: b. Grandmeadow, Minn., Jan. 23, 1873. A graduate of the University of Minnesota (1893), he later received his Ph.D. degree from Boston University (1900). After studying at Jena and Berlin, he was appointed professor of church history at the University of Denver (1898-1900), then held chairs of philosophy and English Bible at Baker University and Allegheny College (1900-1906). From 1906-1943 he held professorships at the Boston University School of Theology. His works include *Principles of Christian Ethics* (1943); *The Philosophy of War and Peace* (1947); and *Basic Issues in Thought* (1950).

KNURR-AND-SPELL. See NUR-AND-SPELL.

KNYPHAUSEN, k'nip'hau-zēn, **BARON Wilhelm von**, German soldier: b. Lützelburg (Luxembourg), Nov. 4, 1716; d. Cassel (Kassel), Dec. 7, 1800. Educated at Berlin, he entered the Prussian army in 1734, in which he became, in 1775, a general officer under Frederick II (the Great). He came to the United States in 1776 as second in command of the Hessians in the English service, and superseded Gen. Philipp de Heister as commander in chief in 1777. He fought at Long Island, White Plains, Brandywine, and Monmouth; and during the temporary absence of Sir Henry Clinton in 1779-1780, commanded at New York. In 1782 he returned to

Germany, becoming military governor of Kassel. He was a capable soldier, who had no high opinion of his unreliable mercenaries.

KOALA, kō-ā'lā, also kōō'lā, a remarkable Australian marsupial, *Phascolarctos cinereus*, commonly called the "native bear." It was formerly abundant throughout eastern Australia, but excessive hunting has rendered it rare except in certain coastal regions of Queensland. It is now rigidly protected by law.

The koala is a solitary animal, slow-moving and defenseless, almost completely arboreal, frequenting eucalyptus forests and feeding at night



Koala.

on the young leaves and buds. It is about two feet long, of heavy bearlike form, and tailless. Its feet, of grasping type with claws, adapt it perfectly for life in the treetops. The fur is brownish gray, dense, woolly, and especially long on the large ears. The young, usually single, is barely three quarters of an inch long at birth. It nurses for several months in the marsupial pouch of the mother and later clings to her back until about a year old.

Consult Troughton, Ellis, *The Furred Animals of Australia* (New York 1947).

JAMES H. MCGREGOR,
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KOBBE, kō'bā, **Gustav**, American music critic: b. New York, N. Y., March 4, 1857; d. near Bayshore, Long Island, N. Y., July 27, 1918. Kobbé studied piano and composition under Adolf Hagen at Wiesbaden, Germany, and continued his musical education under Joseph Mosenthal after returning to New York in 1872. He graduated from Columbia College in 1877 and from the Columbia law school in 1879, but chose the field of musical journalism, becoming an editor of the *Musical Record and Review* (1879-1880) and an assistant critic for the *New York Sun* (1880-1882). In 1882 the *New York World* sent him to report the first performance of *Parsifal* at Bayreuth. After his return he was music critic successively for the *Mail and Express*, the *World*, and the *Herald*, all of New York.

Kobbé was an enthusiastic Wagnerian and achieved his greatest success in this field, with *Wagner's Life and Works* (2 vols., 1890) and the lesser *Wagner and His Isolde* (1905). Other books were such novels as *Signora, a Child of the Opera-House* (1902); popularizations like

How to Appreciate Music (1906) and *Famous American Songs* (1906); and romanticized biographies, including *Loves of Great Composers* (1905) and *Portrait Gallery of Great Composers* (1911).

KOBE, kō'bē, kō'bā, Jap. kō-bē, city, Japan capital of Hyogo Prefecture in western Honshu on the north shore of Osaka Bay, 20 miles east of Osaka. It is one of the country's great seaports, a modern city crowded into a narrow strip along the bay shore and the lower slopes of a range of steep hills, which have restricted its expansion inland but protect it from winter wind. The port facilities are excellent and there are good rail and highway connections with other Japanese cities. Leading imports are raw cotton and wool, metals, fertilizers, petroleum, coal, and other raw materials. Textiles, yarns, and a wide variety of finished goods are exported. Kobe is also a major shipbuilding and industrial center manufacturing electrical equipment, chemical metal and rubber goods, machinery, flour, and sugar. Many foreign consuls and the representatives of foreign companies are stationed here. Kobe has several Christian churches, as well as Shinto and Buddhist shrines, and a noted Daibutsu, a bronze image of the Buddha, 38 feet high.

Until the 1860's, when the port was opened to foreign trade, it was merely a fishing village adjoining the old city of Hyogo, which Kobe has since absorbed. Its growth accompanied the industrial development of nearby Osaka—though that city later created its own port—and was aided by the damage its rival, Yokohama, suffered by earthquake in 1923, after which much trade was transferred here, some of it permanently. During World War II, Allied air forces mined the harbor approaches, and Kobe itself, which has added aircraft and submarine building to its industrial activities, was subjected to a devastating series of incendiary raids in 1945. Pop. (1947) 607,079.

KOBELL, kō'bēl, a family of German artist. The first member of note was the landscape painter and etcher FERDINAND KOBELL (b. Mannheim, June 7, 1740; d. Munich, Feb. 1, 1799). The influence of the Dutch landscapists and Claude Lorrain is evident in his early painting gradually superseded by greater realism. He executed about 300 etchings.

Ferdinand's younger brother, FRANZ KOBELL (b. Mannheim, Nov. 23, 1749; d. Munich, Jan. 14, 1822), was sent to study in Italy by Charles Theodore, elector of the Palatinate, in 1776. He remained in Italy until 1785, when he settled in Munich—Charles Theodore having become duke of Bavaria in the meantime—and became a painter to the court. Kobell produced only a few oil paintings, but left a large number of pen-and-ink drawings and etchings of landscapes and buildings.

Ferdinand's son, WILHELM VON KOBELL (b. Mannheim, April 6, 1766; d. Munich, July 15, 1855), began his training under his father, acquiring his Dutch manner, but in later years developed an individual style, evident particularly in his clarity of modeling and his handling of light effects. Kobell became a court painter in Munich in 1792, and a series of battle scenes from the Napoleonic Wars, executed for the Bavarian crown prince Louis, won him wide recognition. Examples of these, Kobell's paintings of horses and riders, and his landscapes, notably the serene

paintings of the Bavarian uplands dating from his later period, are in galleries in Munich and many other German cities. Kobell became a professor in the academy at Munich in 1808 and was ennobled in 1833.

The mineralogist and writer FRANZ VON KOBELL (see separate article) was his son.

KOBELL, kō'bēl, Franz von, German mineralogist and writer: b. Munich, July 19, 1803; d. there, Oct. 11, 1882. He was appointed professor of mineralogy at the University of Munich in 1826 and became curator of the state mineralogical collection in 1849. Kobell, inventor of the stauroscope for studying crystals, was the author of a history of mineralogy, *Geschichte der Mineralogie, 1650-1860* (1864), and numerous books and scientific papers on crystals and the composition of minerals. His many poems, songs, and stories in the folk idiom, mainly in High Bavarian but also in High German and the dialect of the Palatinate (Pfalz), are noted for their gentle, fanciful humor.

KOBERGER, kō'bēr-gēr, Anton (surname also rendered COBERGER, KOBURGER, COBURGER), German printer, publisher, and bookseller: b. about 1445; d. Nürnberg, Oct. 3, 1513. Koberger came of a family of skilled Nürnberg artisans and began his career as a goldsmith. His printing shop in Nürnberg, opened in 1470, issued its first dated volume in 1472, and between 1480 and 1500, by which date more than 200 separate works had been issued, Koberger was one of Europe's leading printers, employing more than 100 workmen at his 24 presses. He used well-designed, readable types, mainly Gothic, paper of excellent quality, and pioneered in the field of woodcut illustration, obtaining the drawings from such well-known Nürnberg artists as Michel Wohlgenuth (or Wolgemut) and Wilhelm Pleydenwurff. The firm's most famous productions were an illustrated German Bible of 1483 and the lavishly illustrated *Nürnberg Chronicle* (Hartmann Schedel's *Liber Chronicarum* or *Weltchronik*) issued in 1493.

After 1500, Koberger, whose firm had entered the fields of publishing and bookselling, gradually gave up printing, engaging shops in Germany, Switzerland, and France to do his work. The firm traded in books over most of Europe, maintained agencies in principal centers, and issued some of the first advertising circulars. It was especially noted for scholarly and scientific books in Latin. Under Koberger's successors the firm gave up publishing and confined its activities to bookselling.

KOBO DAISHI, kō-bō dī-shē, posthumous title of KUKAI, kōō-ki, Japanese Buddhist monk: b. 774 A.D.; d. Koya, now in Wakayama Prefecture, April 22, 835. Kukai read the Chinese classics as a youth. From 804 to 806 he studied in China under various masters, and, having investigated Confucianism and Taoism, was converted to Buddhism. Finding the Chinese Chent'ien school closest to his ideal, Kukai carried its teachings back to Japan where he founded a Buddhist sect called, after the Chinese name, Shingon, or "True Word" (see JAPAN—Religion). In 816 he established a monastery on Mount Koya, which became the sect's headquarters. Many miraculous stories are told of Kukai, who is revered not only as a great religious fig-

ure, but as the inventor of the hiragana syllabary based on Chinese characters and as an accomplished calligrapher, artist, and poet.

KOBOLD, kō'böld, the household spirit of German folklore, a good-natured goblin, mischievous and fond of pranks, who will usually help with the work as long as he is properly fed. Another sort of kobold inhabits caves and mines.

KOCH, Erich. See KOCH-WESER, ERICH.

KOCH, kōk, Joseph Anton, Austrian painter and etcher: b. Obergiebeln, Tirol, July 27, 1768; d. Rome, Italy, Jan. 12, 1839. He began his training in the Karlsschule at Stuttgart, but because of the strict discipline he ran away in 1791, living in Strasbourg and Switzerland, and made his way to Rome in 1795. Here he became an intimate friend of Asmus Jakob Carstens, and, except for a stay in Vienna (1812-1815), he spent the rest of his life in Italy, becoming a recognized leader of the German art colony in Rome. Koch's etchings include his early illustrations of Carstens's *Argonauts*, Italian landscapes, and illustrations of Dante's *Divine Comedy* and the Ossian myths. His paintings are chiefly depictions of figures and scenes from literature and mythology and landscapes in the classic style of Nicolas Poussin and Claude Lorrain. His satirical *Moderne Art Chronicle* (*Moderne Kunstchronik oder die Rumfordische Suppe, gekocht und geschrieben von J. A. K.*) was published at Stuttgart in 1834.

KOCH, kōk, Max, German literary historian and critic: b. Munich, Dec. 22, 1855; d. Breslau, Dec. 19, 1931. He studied in Munich and Berlin, taught at Marburg (from 1880), and from 1890 to 1924 was assistant professor and later professor of German literature at Breslau. An important figure in the comparative literature movement at the turn of the century, Koch was noted particularly for his investigations of links between German literature and the literatures of England and Italy, and for his many studies and editions of German writers of the 18th and early 19th centuries. His most comprehensive work was a history of German literature, to which Friedrich Vogt contributed the account of the early period, *Geschichte der deutschen Literatur* (1893), which went through numerous carefully expanded editions. Koch also founded and edited several journals devoted to comparative literature, and his lifelong interest in music bore fruit in the biography *Richard Wagner* (3 vols., 1907-1918).

KOCH, kōk, Robert, German bacteriologist: b. Clausthal (Klausthal), Hannover, Dec. 11, 1843; d. Baden-Baden, May 27, 1910. A pioneer bacteriologist whose work revolutionized medicine, Koch studied at the University of Göttingen under the great pathologist Friedrich Gustav Jacob Henle, graduating M.D. in 1866, and, after serving as an army surgeon during the Franco-Prussian War, in 1872 entered private practice at Wollstein (Pol. Wolsztyn) in Posen. Here he began his bacteriological researches by investigating anthrax, isolating the bacillus and proving it to be the cause (1876), later publishing a method of preventive inoculation (1883)—a milestone in the establishment of the modern germ theory of disease. In 1878, he demonstrated the role played by bacteria in wound infections. In 1880 Koch went to Berlin, where there were

greater facilities for research, as a member of the Imperial Board of Health. In that year he and Karl Joseph Eberth isolated the typhoid bacillus, and in 1882 Koch revolutionized the treatment of tuberculosis by isolating the tubercle bacillus. The next year he discovered the bacilli that cause two kinds of infectious conjunctivitis, and, also in 1883, in India as head of a German commission, he succeeded in identifying the comma bacillus as the cause of Asiatic cholera. For this achievement Koch was awarded a gift of 100,000 marks (about \$25,000) by the German government, and in 1885 he was appointed a professor at the University of Berlin and director of its Institute of Hygiene. Not all his triumphs were unmixed, however: his discovery of tuberculin was prematurely announced in 1890 as a diagnostic and remedy for tuberculosis; as a remedy it proved a disappointing failure.

Koch was director of the Institute for Infectious Diseases, which had been established for him in Berlin, from 1891 to 1905. During this period he investigated and improved methods of filtrating public water supplies; he studied rinderpest in South Africa, publishing a means of preventive inoculation in 1896; and in 1897 he was in Bombay investigating bubonic plague. From 1903 to 1906 Koch spent much time in Africa studying relapsing fever and sleeping sickness, and proved that the method of transmission to man is by ticks and the tsetse fly, respectively. He was awarded the Nobel Prize in Physiology and Medicine in 1905.

Koch's discoveries in bacteriology, remarkable as the work of one man, his assistants and pupils, accompanied and to a large extent were dependent upon his development of new bacteriological techniques. These included improved microscope apparatus, new methods of staining, and growing bacteria in transparent, jellylike media.

KOCH, kōk, Theodore Wesley, American librarian: b. Philadelphia, Pa., Aug. 4, 1871; d. Evanston, Ill., March 23, 1941. After graduating from the University of Pennsylvania (B.A. 1892) and Harvard (M.A. 1894), Koch was engaged from 1895 to 1900 in compiling an annotated catalogue of the Dante collection presented by Professor Willard Fiske to the library of Cornell University; besides the catalogue itself (2 vols. 1898, 1900), *Dante in America* (1896) and two lists of Danteiana were the fruits of this period. Koch then continued his studies in Paris, 1900-1901, and after his return served as an assistant in the Library of Congress, 1902-1904, and a librarian at the University of Michigan, 1904-1916. After three more years at the Library of Congress, as chief of the order division, 1916-1919, he began his long career as librarian at Northwestern University in 1919. Besides Danteiana, Koch published *The Library Assistant's Manual* (1913); *Reading: a Vice or a Virtue?* (1926); translations of writings on books and book collecting, including *Tales for Bibliophiles* (1929); and short histories and descriptions of European and American libraries.

KOCH-WESER, kōk' vā'zēr, Erich (original surname Koch, changed to avoid confusion with Erich Koch, a Nazi leader), German politician: b. Bremerhaven, Germany, Feb. 26, 1875; d. Paraná State, Brazil, October 1944. Koch, who was mayor of Kassel (1913-1919) at the

time of Germany's collapse in 1918, became one of the founders, led by Friedrich Naumann, of the Deutsche Demokratische Partei (German Democratic Party), a regrouping of former Progressives and left-wing National Liberals dedicated to moderate internal reform and reconciliation with other nations, including acceptance of the Versailles Treaty. He was a member of the Weimar constitutional assembly in 1919 and served in the Reichstag from 1920 to 1930, becoming his party's leader in 1923-1928 and minister of justice (1928-1929) in Hermann Müller's second cabinet. The Democrats, however, gradually lost ground to other parties, a trend that accelerated as the economic situation worsened. Koch led a futile reorganization, under a new name, Deutsche Staatspartei (German State Party), in 1930, and in 1933, with Hitler's advent to power, he left Germany for Brazil.

KOCHANOWSKI, kō-kā-nōf'skē, Jan, Polish poet: b. Sycyna, near Radom, Poland, 1530; d. Lublin, Aug. 22, 1584. Kochanowski, the greatest Polish poet of the Renaissance, was born into a family of landed gentry, in a powerful, prosperous country, at a time when Polish culture was emerging from the Middle Ages and still lacked the vernacular literature that had developed in southern and western Europe. After attending the universities of Kraków (Cracow) and Krolewiec (Königsberg), in 1552 he joined the stream of young Poles going to Italy, studying at Padua and becoming deeply imbued with Renaissance humanism. He returned to live in Poland in 1559, after traveling through France, and for some years was a courtier and a secretary to King Sigismund II Augustus. About 1570, however, he retired to his family estate, Czarnolas, near Radom, where he married (1575) and spent the rest of his life.

Kochanowski wrote fluent Latin lyrics, elegies, and epigrams, mainly during his early period; but his Polish poetry, all apparently written after 1559, entitles him to be considered the founder of Polish poetic literature. Based on Latin and Greek models, saturated with classical allusions, it follows the ideal of his French contemporary, Pierre de Ronsard, creating a national poetic literature along classical lines. The works generally considered Kochanowski's masterpieces are: the songs published in *Sobótka* (*St. John's Eve*); a fine paraphrase of David's Psalms, *Psalterz Dawidów* (1575); a short tragedy in blank verse with choral odes, based on a theme from the Trojan War, *Odprawa Posłów Greckich* (1578, Eng. tr., *The Dismissal of the Grecian Envoys*, 1918); and *Treny* (1580, Eng. tr., *Laments*, 1920), unforgettable elegies on the death of his little daughter Ursula. Other Polish poems include those published in the collections *Fraski* (*Trifles*) and *Pieśni* (*Songs*), as well as many written for special occasions or inspired by events of the day.

The two English translations noted above, *The Dismissal of the Grecian Envoys* and *Laments*, together with *St. John's Eve* and other poems were published in *Poems by Jan Kochanowski* (Berkeley, Calif., 1928).

KOCHER, kō'kēr, (Emil) Theodor, Swiss surgeon: b. Bern, Switzerland, Aug. 25, 1841; d. there, July 27, 1917. He graduated M.D. from the University of Bern in 1865, studied surgery in Berlin, Paris, and London, and was professor

of surgery and director of the surgical clinic at the University of Bern from 1872 until 1911. Kocher was known particularly for surgical alleviation of hyperthyroidism, beginning with his pioneer operation for removal of a thyroid in 1878. This was followed by more than 2,000 similar operations, with a very low mortality rate that was due largely to Kocher's attention to asepsis, in which he was also a pioneer. He was known, too, for surgery of the stomach, gall bladder, brain, and spinal cord, and for methods of alleviating hernia and dislocation of the shoulder. One of the leading surgeons of his day and a teacher who attracted to his clinic thousands of students from all parts of the world, Kocher was awarded the Nobel Prize in Physiology and Medicine in 1909.

KOCHI, kō'chê, city, Japan, capital of Kochi Prefecture, near the south coast of Shikoku Island. It is a commercial and fishing center and port, situated some 60 miles from the coast on a long, deep inlet of Tosa Bay. The summers are warm and humid, the winters mild, which permits the growing of two rice crops per year in the surrounding region. Kochi's leading products are dried bonito, ornamental coral, sake, and raw silk; paper, cement, and lumber obtained from densely forested mountains nearby are other exports. Kochi, a fishing village that became a feudal castle town and later an administrative center, was heavily bombed in 1945 during World War II. Pop. (1947) 147,120.

KOCK, kôk (Charles) Paul de, French novelist and playwright: b. Passy, near Paris, May 21, 1793; d. Paris, Aug. 29, 1871 (these dates are given in his *Mémoires*; some biographers give date of birth as May 21, 1794). He was the son of a Dutch banker who was guillotined during the French Revolution. At 15 he was placed in a banking house, but he showed greater interest in writing, and, beginning with the novels *Corolette* (1820) and *Gustave* (1821), he enjoyed a period of immense popularity that lasted into the 1840's. Paul de Kock was a prolific serial novelist, a hasty, crude writer, though often keenly observant, who entertained his many readers with stories of low- and middle-class Parisian life that were successions of lively incidents spiced with ambiguous situations and exuberant humor. He was even more popular abroad than at home, since his defects of style tended to disappear in translation and foreign readers found their private notions of life in Paris fully confirmed. His innumerable novels included *Mon voisin Raymond* (1822), *La laitière de Montfermeil* (1827), *La pucelle de Belleville* (1834), *Un homme à marier* (1843), and *La fille aux trois jupons* (1861). De Kock's stage works included melodramas, vaudevilles, and light operas, chiefly dramatizations of his novels. His *Mémoires* were published in 1873 (Eng. tr., Boston 1903).

His son, **HENRI DE KOCK** (1819–1892), also a novelist and playwright, imitated his father without equalling his gaiety and good humor.

KODACHROME. See COLOR PHOTOGRAPHY; PHOTOGRAPHY.

KODAK, kô'dâk, a word coined as a trademark by George Eastman and applied to his camera, the first commercial model of which ap-

peared in 1888. The original Kodak was a small box camera, of the fixed-focus type, which took round pictures 2½ inches in diameter and carried a roll of film sufficient for 100 exposures. When all were exposed, the camera was returned to the factory where the film was removed and processed, and the camera reloaded. "You press the button, we do the rest" became the company's widely advertised slogan. The advent of the Kodak, a simple, hand-portable, inexpensive camera, practically marked the beginning of amateur photography.

The roll film used in the first model had a paper base, but this was soon superseded by a more practical transparent, flexible film with a cellulose base. The first films had to be loaded into the camera and unloaded in a darkroom. This handicap was overcome by the introduction of the film cartridge system with its protecting strip of nonactinic paper, making it possible to load and unload in ordinary light.

The early Kodak cameras were of the box type, with fixed focus, although as various sizes were marketed, devices for focusing the lenses were incorporated. The first folding Kodak, equipped with a folding bellows for greater compactness, was introduced early in the 1890's, and the first pocket Kodak appeared in 1895. This camera was of the box type, slipped easily into an ordinary coat pocket, and produced negatives 1½ by 2 inches. The first folding pocket Kodak camera was introduced in 1898.

KODALY, kô'däl-y', Zoltán, Hungarian composer and musical folklorist: b. Kecskemét, Hungary, Dec. 16, 1882. Some of his earliest compositions were performed while he was a student in the Gymnasium at Nagyszombat (later Trnava, Czechoslovakia). Kodály continued his studies in Budapest, where, while taking a scientific course at Péter Pázmány University, he studied composition under Hans Koessler at the academy of music. To answer the question, what is true Magyar (Hungarian) music, Kodály set out on his first collecting expedition in 1905, tracing the folk music to its source among the peasants. In time he recovered several thousand Magyar songs and dances, working after 1906 in collaboration with his friend Béla Bartók, joint author of the first published collection, *Magyar Népdalok* (1907).

As a natural consequence, Magyar folk music exerted a powerful influence on Kodály as composer. The first concert devoted to his works (chamber music) was given in Budapest in 1910, with Bartók as pianist; subsequently his music became known abroad, and in the decade after World War I Kodály became an international celebrity. His first great success was the *Psalmus Hungaricus* (1923), written for the 50th anniversary of the union of Buda and Pest, a setting for tenor, chorus, and orchestra of a 16th century Hungarian version of the 55th Psalm. Kodály's *Székelyfő* (*The Spinning Room*), "lyric scenes" constructed from folk music, was first presented in 1924 (enlarged version 1932); his opera *Háry János* in 1926. The suite from *Háry János*, depicting the adventures of its Münchhausen-like hero, is in the repertory of most symphony orchestras. Kodály's compositions also include the *Dances of Marosszék* (1930) and *Dances of Galánta* (1933) for orchestra, chamber and piano works, songs, and much religious and secular choral music.

KODAMA, kô-dâ-mâ, VISCOUNT Gentaro, Japanese army officer: b. near Tokuyama, Japan, Feb. 5, 1852; d. Tokyo, July 23, 1906. Kodama, who studied military science in Germany and served as governor of Formosa, is known chiefly for the brilliant campaign he planned and directed in Manchuria while chief of staff to Field Marshal Iwao Oyama during the Russo-Japanese War, 1904-1905.

KODIAK, kô'dî-âk (sometimes called KADIAK), island, Alaska, southeast of the Alaska Peninsula, from which it is separated by Shelikof Strait. The island, about 100 miles long and up to about 50 miles wide, is generally hilly, rising to some 5,000 feet at the eastern end. Except for these eastern wooded uplands, Kodiak is treeless but covered with native grass of good grazing quality. The soil is good, and the growing season averages 160 days. The coast is deeply indented, affording numerous harbors for the fishing fleet. Fishing, especially salmon, and fish canning are the leading industries; cattle raising, dairying, and sheep raising are important and increasing. There is also some trapping and fur farming. The famed Kodiak (or Kodiak) brown bear is native to the island.

The first Russian colony in Alaska was founded by Grigori Ivanovich Shelekhov on the southeast coast of Kodiak at Three Saints Bay in 1784. This settlement was moved in 1792 to Kodiak on the northeast coast, now the principal town. In 1912 the island suffered severely from the eruption of Mount Katmai on the Alaska Peninsula, which covered Kodiak with a layer of volcanic ash. The population of Kodiak District—that is, Kodiak Island with some smaller islands and a nearby strip of the Alaska Peninsula—was 2,094 in 1939; 6,264 in 1950.

KODIAK, kô'dî-âk, town, Alaska, on the northeast coast of Kodiak Island. It is the island's principal town, a trade and canning center, and a fishing port. Kodiak was founded in 1792 when the first Russian settlement was moved here from Three Saints Bay, and soon after it became one of the Russian-American Company's main fur-trading stations. Fort Greeley, a supply base during World War II, is nearby, and the naval and air base at Womens Bay is 10 miles southwest. Pop. (1950) 1,710.

KODOK, kô'dök (formerly FASHODA, fâ-shô'dâ), town, Sudan, on the west bank of the White Nile, about 375 miles south of Khartoum. It is connected by road with Malakal, 40 miles southwest. Kodok has a population of about 3,000. The region is inhabited by Negroid Shilluks.

Fashoda Incident.—Kodok is known to the outside world mainly because of the famous Fashoda Incident in 1898, during the scramble by European powers for spheres of influence in Africa. The place had been under Egyptian control, but was abandoned during the Mahdist revolt and the withdrawal of Egyptian forces from the Sudan in 1884-1885. The French government, seeking to extend its sphere of influence, in 1896 sent the noted explorer Captain Jean Baptiste Marchand to Brazzaville in French Congo, whence he was to lead a small body of Senegalese troops by way of the Congo River and a Nile tributary to Fashoda. Here he would be joined by other forces coming in the opposite direction

from Djibouti and Ethiopia. Marchand left Brazzaville in March 1897 and after overcoming incredible difficulties reached Fashoda on July 10, 1898, hoisting his flag over the old Egyptian fort.

Meanwhile the British, who envisioned an unbroken British-controlled belt of African territory from Cairo to Cape Town, hastened the Anglo-Egyptian reconquest of the Sudan from the north. The Egyptian sirdar, Horatio Herbert Kitchener, after crushing the Madhists at Omdurman (Sept. 2, 1898), proclaimed the Sudan an Anglo-Egyptian protectorate, and on September 19, at the head of a large force, he met Marchand at Fashoda. Neither soldier would give way and they referred the question to their respective governments. An acute diplomatic crisis resulted, amid great popular excitement on both sides; but France, unequal to Great Britain in seapower and divided internally by the revival of the Dreyfus Affair, eventually yielded. The French expedition left Fashoda on Dec. 11, 1898, returning by way of Djibouti to Paris, where the gallant Marchand was accorded a hero's welcome.

The dispute was formally ended by a convention of March 21, 1899, by which France relinquished her claims to the Sudan; but it left a legacy of bitterness and in 1904, when the Anglo-French entente was formed, the British tactfully changed Fashoda's name to Kodok.

KOECHLIN, kâk-lân', Charles, French composer and musical theorist: b. Paris, France Nov. 27, 1867; d. Var Department, Jan. 1, 1951. Kœchlin entered the École Polytechnique in Paris in 1887, but two years later, having decided to make music his profession, he left it for the conservatory. Here during the years 1890 to 1898 he studied harmony under Antoine Taudou, counterpoint under André Gédalge, and composition under Jules Massenet and Gabriel Fauré. Kœchlin was acknowledged a teacher, critic, and theorist of high rank. Among his books are *Traité d'harmonie* (1927), *Théorie de la musique* (1935), *Traité d'orchestration* (1949), and critical biographies of Fauré (1927) and Debussy (1927).

As composer Kœchlin is less well-known than his works merit. Many, perhaps most, of his compositions remain unpublished. His music is above all individualistic, the production of a constant experimenter who refused to adhere to any school, whose "style" encompassed the gamut of the modern composer's repertory. His compositions include a "Biblical pastoral" in one act, *Jacob chez Laban* (1925); symphonic poems; ballets; film music; chamber music; songs; and choral works.

KOEHLER, kü'lër, Robert, American artist: b. Hamburg, Germany, Nov. 28, 1850; d. Minneapolis, Minn., April 23, 1917. He was taken to the United States in 1854. Educated and trained in lithography in Milwaukee, Koehler worked as a commercial lithographer there and in Pittsburgh and New York, where he studied drawing in night classes of the National Academy of Design. 1873-1875 he studied painting in Munich, returning there four years later, to spend the next 13 years as student and teacher. Koehler returned to New York in 1892, and in 1893 he accepted an appointment as director of the school of art in Minneapolis, where he spent the rest of his life. Koehler's paintings are mainly portraits and genres. Though represented by paintings hanging in the Pennsylvania Academy of the Fine

and in the libraries of Minneapolis and Duluth and the museums of Minneapolis and Milwaukee, he is chiefly noteworthy for the important influence which he had in promoting art instruction and appreciation in the Midwest. His principal paintings include *The Holiday Occupation*, *Her Only Support*, *The Socialist*, *The Strike*, *The Family Bible*, and *Salve Luna*.

KOEL, one of a group of East Indian and tralasian cuckoos, of the genus *Eudynamis*. y are parasitic, but have many peculiarities, ng which are the glossy black plumage of the s, and the fact that, contrary to the usual, immature young resemble the males instead he females, which have a reddish dress. A lippine species (*E. mindanensis*) is locally d "phow," while an Indian species (*E. hono-*) is known as the "rain bird." They utter l whistling cries.

KOENIGSBERGER, kû'nîks-bër-gër, **Leo**, man mathematician: b. Posen, Oct. 15, 1837; leidelberg, Dec. 15, 1921. He was educated Posen and Berlin, later teaching mathematics physics at Berlin (1860-1864). He was ap- tted assistant professor at Greifswald (1864- 5) and professor (1866-1869), and successively leidelberg (1869-1875), Dresden (1875-1877), Vienna (1877-1884), after which he was ve at Heidelberg. His chief field of interest tered about the principles of mechanics, the ory of equations, and differential equations ut which he wrote extensively.

KOESTER, Frank, German-American engi- r. b. Sterkrade, Germany, Aug. 28, 1876; d. w York, Oct. 6, 1927. After 10 years of oretical training and practical engineering and micipal experience in Germany, he came to the ted States in 1902. He was connected with construction of the New York subway system d other large engineering undertakings in the ited States, South America, Alaska, and the lippines. A considerable part of his practice is devoted to the design, construction, and eration of electric generating stations. Recogn- ing the importance of the growing field of city anning, he began to make a special study of dern methods in this field, and soon became professional consultant in city planning and reet lighting. Among his many published works *Modern City Planning and Maintenance* (1914).

KOESTLER, kěst'lër, **Arthur**, Hungarian- merican author: b. Budapest, Hungary, Sept. 5, 905. After attending the University of Vienna, e became Middle East correspondent for a chain f German newspapers, later becoming Paris rrespondent and Berlin foreign editor (1926- 931). In the early 1930's he joined the Com- unist Party and in 1932 and 1933 traveled ex- ensively in Russia and Soviet Asia as a guest f the Soviet Union. Koestler went to Spain in 936 to cover the Civil War for the London *News Chronicle*, but the following year he was captured and imprisoned by Franco charged with eing a spy. He was summarily condemned to death without a hearing. Efforts on his behalf English friends, however, were successful, and ee months later he was released. His book, *Spanish Testament* (1937), called *Dialogue with Death* in the American edition (1942), records i state of mind during this period of imprison-

Koestler became editor in 1938 of a Parisian German-language weekly which was directed against both Germany and Russia. Already he had severed his connection with the Communist Party, disillusioned and disgusted with the corruption of the Left. In a modern fable, *The Gladiators* (1939), he sets forth his disillusion with revolution. At the beginning of World War II he was imprisoned in a French concentra- tion camp, though his release was again effected by British efforts in 1940, after which he managed to escape to England where he was again locked up for several weeks. *Scum of the Earth* (1941) tells the story of his concentration camp experiences. He later joined the British Army. In 1951 he was granted permanent United States residence by an act of Congress.

Darkness at Noon (1941), a novel based on the Communist Party purge and Moscow trials of 1936 to 1938 portrays vividly the process by which a loyal Bolshevik who has fallen from official favor is pressured into confessing crimes of which he has not been guilty.

Among his other works are *The Yogi and the Commissar* (1945), *Insight and Outlook: an Inquiry into the Common Foundations of Science, Art, and Social Ethics* (1949), and *Promise and Fulfilment: Palestine, 1917-1949* (1949); his novels, *Arrival and Departure* (1943), *Thieves in the Night* (1946), and *The Age of Longing* (1951); and a play, *Twilight Bar* (1945).

KOETSVELD, kōōts'vêlt, **Cornelis Eliza van**, Dutch theologian and novelist: b. Rotter- dam, May 24, 1807; d. The Hague, Nov. 4, 1893. He studied at Leiden, and was pastor at West- maas, Berkel, and Schoonhoven, afterwards be- coming preacher to the court at The Hague. He wrote numerous religious works, but is best known for his *Schetsen uit de Pastorij te Mast- land* (1843; 13th ed., 1902) with its humorous and vivid descriptions of country life. It was trans- lated into English by Thomas Keightley as *The Manse of Masiland* (1860).

KOFFKA, kōf'kà, **Kurt**, German-American psychologist: b. Berlin, Mar. 18, 1886; d. North- ampton, Mass., Nov. 22, 1941. Educated at the universities of Berlin, Edinburgh, Freiburg, and Würzburg, he later taught at the universities of Würzburg, Frankfurt, and Geissen. He emigrated from Germany to the United States. He taught at Cornell, Chicago, and Wisconsin universities. In 1927 he became professor of psychology at Smith College where he remained until his death. His chief research lay in the field of perception. With Wolfgang Köhler and Max Wertheimer he was the founder of the school of Gestalt psy- chology (q.v.) which is based upon the theory that behavior cannot be analyzed into separate component units but must be studied as a whole in its complete configuration. His books, *The Growth of the Mind* (1924) and *The Principles of Gestalt Psychology* (1935), have been basic works in this field.

KOFOID, kō'foid, **Charles Atwood**, Ameri- can zoologist: b. Granville, Ill., Oct. 11, 1865; d. Berkeley, Calif., May 30, 1947. Educated at Oberlin College and Harvard University (Ph.D., 1894), he first taught at Oberlin Academy. He later became a teaching fellow at Oberlin (1890- 1891) and an instructor of vertebrate morphology at the University of Michigan (1894-1895). From

1895 to 1900 he was superintendent of the biological station of the University of Illinois at Havana, Ill., and assistant professor of zoology at the University of Illinois (1897-1900). He was appointed to various positions at the University of California, being professor of zoology (1910-1936) and head of the department of zoology (1910-1919, 1923-1936). He was associate naturalist of the Agassiz expedition to the eastern tropical Pacific on the United States steamer *Albatross* (1904-1905), and assistant director of the Scripps Institute of Biological Research from 1900 to 1924. He invented several plankton nets and a deep-sea water sampler, and received the Saint Louis Exposition gold medal (1904). He was associate editor of the *American Naturalist* from 1897 to 1908 and edited the *University of California Publications in Zoology* from 1909 to 1936.

KOFU, kō'fōō, city, Japan, capital of Yamaguchi Prefecture, is located on Honshu Island about 70 miles west of Tokyo. Its principal manufactures are silk fabrics and fine crystals, and considerable trade is carried on in raw silk and silk cocoons. The fertile district surrounding Kofu produces a grade of grapes which make an excellent wine. Mount Fuji lies just to the south, and within Kofu are a Shinto shrine, a Buddhist temple, and an old castle. Much of the city was destroyed by bombings in World War II. Pop. (1940) 106,579; (1947) 104,993.

KOGEL, kû'gēl, Rudolf, German theologian and court preacher: b. Birnbaum Province of Posen, Feb. 18, 1829; d. Berlin, July 2, 1896. He studied theology and philosophy at Halle and Berlin (1847-1852); was appointed teacher of religion at the Vitzthumsche Gymnasium, Dresden (1852-1854) and pastor in Nakel (1854-1857); and was preacher of the German-Evangelical community at The Hague (1857-1863). Kōgel was appointed simultaneously to the positions of court preacher in Berlin and member of the Consistorium of the Margrave Brandenburg and counselor to the Minister of Public Worship. In 1880 he was appointed chief preacher of the court and was chosen as a member of the Privy Council (1884). He successfully used his influence at court against free-thought church ideas thus giving a conservative turn to the religious thought of Prussia.

KOGIA, kō'jī-ā, the generic and ordinary name of the pigmy sperm whales of the Pacific which differ from the true sperm whales in anatomical particulars and conspicuously in size, not exceeding 9 to 12 feet in length. There are several species of these cetaceans which belong mainly to the New Zealand region.

KOH-I-NUR, kō'ī-nōōr, or **KOHINOOR**. See DIAMOND.

KOHL, kōl, Johann Georg, German traveler and historian: b. Bremen, April 28, 1808; d. Bremen, Oct. 28, 1878. Nearly his entire life was devoted to travel and historical investigation in Europe and North America where he spent four years (1854-1858) and published as the fruits of researches *Travels in Canada* (1855), *Travels in the Northwestern Parts of the United States* (1857), *History of the Discovery of America* (1861), and several essays on American cartog-

raphy. Other works are *Travels in the Interior of Russia and Poland* (1841), *The British Isle and Their Inhabitants* (1844), *The Rhine* (1851) and *The Danube* (1853).

KOHLER, kō'lēr, Josef, German jurist, author, and poet: b. Offenburg, March 9, 1849; d. Berlin, Aug. 3, 1919. He studied at Offenburg and Rastatt gymnasiums and Freiburg and Heidelberg universities. He became doctor of law (1873) and was appointed judge at Mannheim (1874). He obtained the post of professor at Würzburg (1878) and Berlin (1888). In numerous volumes and through his many contributions to journals of law he aided much in advancing the comparative history of law and the philosophy of law. He also wrote extensively on civil law and the history of art, as well as several volumes of poetry.

KOHLER, Kaufmann, American rabbi and educator: b. Fürth, Bavaria, May 10, 1843; d. New York, Jan. 28, 1926. After completing his studies at the universities of Munich, Berlin, and Leipzig, he was chosen as rabbi in Detroit in 1869, and two years later elected rabbi of Temple Sinai, Chicago, where he introduced Sunday lectures, a novelty in those days. In 1879 he was called to Temple Beth El, New York, where he remained until 1903. At his initiative in 1885 a rabbinical conference was held in Pittsburgh which formulated a platform for Reformed Judaism. In later years he frankly receded from the radical standpoint and assumed a more conservative position. From 1903 to 1922 he was president of the Hebrew Union College in Cincinnati. He was a frequent contributor to the Jewish press, edited the *Sabbath Visitor* (1881-1882), the *Jewish Reformer* (1886), and was one of the editors of the *Jewish Encyclopedia*. In addition to numerous critical papers he wrote *Der Segen Jakobs* (1868); *On Capital Punishment* (1869); *On Song of Songs* (1877); *Ethical Basis of Judaism* (1877); *Backwards or Forwards: Lectures on Reform Judaism* (1885); *Church and Synagogue in Their Mutual Relations* (1889); *Guide to Instructions in Judaism* (1899); *Jewish Theology Systematically and Historically Considered* (1918); and *Heaven and Hell in Comparative Religion* (1923). *The Origin of the Synagogue and the Church*, upon which he was working when he died, was published posthumously in 1929, *Studies, Addresses, and Personal Papers*, in 1931.

KOHLER, kû'lēr, Ulrich, German archaeologist: b. Klein-Neuhausen, Grand Duchy Weimar, Nov. 5, 1838; d. Berlin, Oct. 21, 1901. He studied at Jena, was appointed secretary of the Prussian embassy at Athens (1865), and later was made professor of archaeology at Strasbourg (1872). Köhler was governor of the newly founded Archaeological Institute of Athens from 1875 until 1886 when he was appointed professor of ancient history at Berlin. His principal work is the second volume of *Corpus Inscriptionum Atticarum* (Berlin 1877-1895) which contains inscriptions from the time of the Archon Euclid to Augustus.

KOHLER, Wolfgang, German-American psychologist: b. Revel, Estonia, Jan. 21, 1886. Educated at the universities of Tübingen, and Berlin, he became director of the Te

anthropoid Station in the Canary Islands (1913-20). In 1921 he was made professor of psychology and director of the Psychological Institute at Berlin where he remained until he came to the United States in 1935 to join the staff of Northmore College as professor of psychology. Köhler's chief research has been in the field of animal psychology, his experiments at Tenerife on perception and learning in apes and chimpanzees being most notable. With Kurt Koffka and Max Wertheimer, he was a founder of the school of Gestalt psychology (q.v.) which considers the whole pattern of behavior of greatest significance and of a different quality from the individual elements making up this totality.

He wrote *Mentality of Apes* (1925), *Gestalt Psychology* (1929), *The Place of Value in a World of Facts* (1938), and *Dynamics in Psychology* (1940).

KOHLRABI, kōl'ra-bī, a botanical variety of the same species as cabbage (q.v.), from which it differs in the swelled, turnip-like stem with a tuft of loose leaves on the top. This bulbous stem, which may be six inches in diameter, is used for human and stock food, less in America than in Europe.

KOHLRAUSCH, kōl'roush, **Friedrich**, German physicist: b. Rinteln, Oct. 14, 1840; d. Marburg, Jan. 17, 1910. The son of Rudolf Kohlrausch (q.v.), he studied at Erlangen and Göttingen. He became lecturer (*docent*) at the Frankfurt Physikalischer Verein (1864), became professor of physics at Göttingen (1866), and was appointed professor, successively, of the Polytechnikum, Zürich (1870); Darmstädter Polytechnikum (1871); Würzburg (1875); and Strasbourg (1888). He was appointed president of the Physikalisch-Technische Anstalt (Imperial Physico-technical Institute) of Berlin (1895) and honorary professor of Berlin University (1900). His work was chiefly in the realm of electric currents, resistance, the constitution of galvanic currents, the defining of the Ohm and electrochemical equivalents, thermo-electricity and conductivity of heat, electrolytic conductivity, total reflection of light, elasticity of matter, and especially reaction of elasticity. He constructed numerous magnetic and electric measuring instruments, a bifilar-magnetometer, an intensity-variation meter, a voltmeter, and a switch-rheostat. His exposition of the most important methods of measurements in physics is expounded in his *Leitfaden der praktischen Physik* (Leipzig 1870; 19th ed., 1944). Among his other works are *Ueber den Leitungswiderstand des Quecksilbers* (Munich 1888) and *Das Leitvermögen der Elektrolyte, insbesondere der Lösungen* (Leipzig 1898) are important.

KOHLRAUSCH, Rudolf Hermann Arndt, German physicist: b. Göttingen, Nov. 6, 1809; d. Erlangen, March 9, 1858. He was successively teacher of mathematics and physics at Lüneburg, Rinteln, Cassel, and Marburg. In 1857 he was appointed professor of physics of the University of Erlangen. In collaboration with Wilhelm E. Weber, he carried out the first mechanical measurements of electric currents, laying the ground for the absolute system of electrical measurement.

KOHLSAAT, Herman Henry, American publisher: b. Albion, Ill., March 22, 1853; d.

Washington, Oct. 17, 1924. Although he had little formal education, he managed to acquire a considerable fortune in the bakery business and other enterprises. From 1891 to 1894 he was part owner of the *Inter-Ocean* of Chicago. From 1895 to 1901 he was editor and publisher of the *Chicago Evening Post* and the *Times-Herald*. The latter, in 1901, was amalgamated with the *Chicago Record* into the *Record-Herald* of which paper he was editor, 1910-1911. In 1912 he bought the *Inter-Ocean*, then bankrupt, and succeeded in seeing it through another receivership in 1914 in which year he combined it with the *Record-Herald*, the new paper being known as the *Chicago Herald*. A devoted Republican, he actively supported McKinley, Roosevelt, and Taft, and used his position to promote his views on the necessity for a high protective tariff and the gold standard.

KOKAND, kō-kānd', city, is located in northwest Fergana Oblast in eastern Uzbek SSR about 100 miles southeast of Tashkent. In the heart of the rich Fergana Valley, Kokand is an important rail, trade, and agricultural center. Among other industries the city contains cotton and silk mills, sugar refineries, machine plants, and facilities for the production of cotton seed oil. Kokand was important as early as the 10th century and was the capital of the former Kokand khanate when the latter reached its height in the 18th century. The khanate was later conquered by the Chinese and finally, after much conflict with other peoples of Turkestan, the region fell to Russia in 1876 and was made a part of the province of Turkestan. The Kokand region became a part of the Uzbek SSR when the latter was formed in 1924. Pop. (1939) 84,665.

KOKCHETAV, kūk-chē-táf', oblast of the Kazakh SSR, is located in southern Soviet Central Asia in the northern part of Kazakh in a wooded steppe region. Formed in 1944, this administrative subdivision, the capital of which is the agricultural center of Kolchetav, has primarily an agricultural economy with wheat, millet, oats, cattle, and sheep being of most importance. It is served by the Petropavlovsk-Balkhash railroad. Pop. (est. 1947) 320,000.

KOKO NOR, kōkō-nōr', **KUKU NOR**, **TSING HAI**, ching'hi', or **CHINGHAI**, lake in the northeast part of Tsinghai Province in west central China. It is approximately 65 miles long and 40 miles wide and lies at an altitude of about 10,000 feet. Its shallow and brackish waters are frozen for several months of each year.

KOKOMO, kō'kō-mō, city, Indiana, seat of Howard County, is a commercial and industrial center located on Wildcat Creek 50 miles north of Indianapolis at an altitude of 815 feet. Situated in the midst of a rich farm region, it is served by the New York, Chicago, and St. Louis and the Pennsylvania railroads. The factory products are widely diversified and include auto supplies and parts, precision instruments, machinery, radios, tools, springs, wire products, signs, plumbing supplies, glass products, farm equipment, rubber goods, clothing, and canned goods. The first practical American automobile was invented here in 1893 and given its first successful road tests the following year in Kokomo by Elwood Haynes. The city was named after Ma-Ko-Ko-

Mo, an early Miami Indian chief. There was an Indian trading post here in 1842; in 1844 it was made the county seat and became a city in 1865. Pop. (1940) 33,795; (1950) 38,672.

KOKOSCHKA, kô'kôsh-kä, **Oskar**, Austrian expressionist painter and writer: b. Pöchlarn, Austria, March 1, 1886. He completed his education at the Vienna School of Arts and Crafts, and after participating in World War I he joined the faculty of the Dresden Academy (1920-1924). His subsequent European and Near Eastern travels ended when he went to live in England in 1938, though after World War II he again returned to the continent. In 1937 his paintings were removed from German galleries. Among his works are several expressionist poems and the plays *Mörder, Hoffnung der Frauen* (1907), *Der brennende Dornbusch* (1911), *Hiob* (1917), and *Orpheus und Eurydike* (1923). His early painting centered about portraiture of great perception. Later he came to pay more attention to landscape painting with bold usage of form and color for violent psychological effect.

KOLA NUT. See **COLA NUT.**

KOLA, kô'lä, **PENINSULA**, Soviet Russia, is situated between the White Sea and the Barents Sea and consists largely of a granite and gneiss plateau. It is covered by many large lakes surrounded in the northern regions by tundra and by forests in the south. The Arctic coast here, some 200 miles long, is known as the Murman Coast, and was in 1918 brought very prominently to the fore by the landing of Allied troops. Murmansk, the chief city, was an important Russian receiving base during World War II. The peninsula has an area of about 50,000 square miles and is very rich in mineral resources.

KOLAR, kô'lär, **Josef Jiri**, Bohemian actor, dramatist, and novelist: b. Prague, Feb. 9, 1812; d. there, Jan. 31, 1896. After leaving Prague University where he had studied philosophy, he devoted himself to the theater and became a member of the Prague State Theater in 1839, gaining fame in Shakespearean roles. He was appointed director of the Czech Theater at Prague in 1869.

He made translations of the plays of Shakespeare, Goethe, and Schiller, and he wrote several novels. Among his plays are the tragedies *Monika* (1847), *Ziškova smrt* (1850), *Magelona* (1851), *Pražský šid* (1871), and *Primátor* (1883).

KOLB, kôlp, **Georg Friedrich**, German politician and publicist: b. Speyer, Bavaria, Sept. 14, 1808; d. Munich, May 16, 1884. He was elected to the Bavarian Landtag in 1849 and was the publisher of the *Neue Speyerer* which was suppressed in 1853. He escaped persecution by living in Zurich, but again became a member of the Bavarian Landtag in 1863 at which time he strenuously opposed the union of Bavaria in the German Bund. His principal works are *Handbuch der vergleichenden Statistik* (Zurich 1857, 8th ed., Leipzig 1879) and *Kulturgeschichte der Menschheit* (Leipzig 1868-1870, 3rd ed., 1885). Under the pseudonym "Broch" he wrote *Italien und jetzige politische Lage des übrigen Europas* (Zurich 1859).

KOLBE, kôl'bē, **Adolph Wilhelm Hermann**,

German chemist: b. Elliehausen, near Göttingen, Sept. 27, 1818; d. Leipzig, Nov. 25, 1884. He studied at Göttingen under Friedrich Wöhler and became assistant to Robert Bunsen at Marburg (1842). He was an assistant to Lyon Playfair at London (1845), but returned to Marburg (1847) in order to continue work on the nitrites started in London. He moved to Brunswick the same year and edited *Handwörterbuch der Chemie* of Liebig and Wöhler. He was made professor at Marburg (1851) and at Leipzig (1865).

Kolbe is of importance chiefly for his researches in organic chemistry and the structure of organic molecules. He made one of the first syntheses of an organic compound from inorganic matter by treating carbon disulfide with chlorine and converting it into trichloroacetic acid which in turn became acetic acid through the action of hydrogen. He also worked on the electrolytic decomposition of organic acids; on the reaction of cyanogen with alcohol; and on the synthesis of cacodyl. He discovered the synthesis of corallin from phenol (1861) and invented a simple process of salicylic acid production from phenol and carbonic acid, learning the next year of the antiseptic properties of this composition. Based on the doctrine of the *para* radicals he attempted to advance chemistry on the radical theory and remained antagonistic to the type and structural theory. He edited the *Journal für praktische Chemie* from 1869. Among his works are *Ausführliches Lehrbuch der organischen Chemie* (Brunswick 1855-1864), which has had many revised editions, and *Kurses Lehrbuch der anorganischen Chemie* (Brunswick 1883).

KOLBERG, kôl'bërk, seaport and resort in the Province of Koszalin, Poland, near the mouth of the Persante River about 75 miles northeast of Stettin. The town first became of importance in the 11th century when it was a fortress and a salt trading center. At this time it was under Polish rule but later came under the sovereignty of the princes of Pomerania. It received municipal rights in 1255 and joined the Hanseatic League in 1284. In the 17th century it was for a time occupied by Sweden. After the Treaty of Westphalia it became Brandenburgian, then a part of the Prussian province of Pomerania. It endured long sieges during the Thirty Years' War, the Seven Years' War, and again in the Napoleon Wars. Kolberg has a well-protected harbor and its suburb of Münde, which has been a favorite resort.

Before World War II Kolberg was an important port for lumber, coal, grain, and fertilizer. Its industries included iron foundries, machine works, drugs, and cosmetics. With 90 per cent of the city destroyed in World War II, the German population was evacuated. It was captured by the Russians in 1945 and assigned to Poland by the Potsdam Conference in 1945. Its Polish name is Kolobrzeg. Pop. (1946) 2,816.

KOLBING, kôl'bing, **Eugen**, German scholar: b. Herrnhut, Sept. 21, 1846; d. Herrnhut, Aug. 10, 1899. He became lecturer at University of Breslau in 1873 and professor of English language and literature in 1880. Kolbing made a specialty of medieval English literature and also edited a number of old Norse sagas. Among his works is *Beiträge zur vergleichenden Geschichte der romantischen Poesie und Prosa des Mittelalters* (Breslau 1876). He founded

(1877) the periodical *Englische Studien*. Consult his biography in *Englische Studien* (Leipzig 1900).

KOLB'S FARM, Engagement at. After the action at Pine Mountain (q.v.), 15 June 1864, General Sherman closed in on the Confederate army defending Marietta and the railroad south to the Chattahoochee, and began the extension of his lines to the right. The Confederates made a corresponding move to the left, and on the night of the 21st Hood's corps of two divisions, Hindman's and Stevenson's, moved from the right, near the railroad north of Marietta, to the Marietta and Powder Springs road, near Zion Church, about four miles southwest of Marietta and a mile east of Kolb's farm. Hood now occupied the extreme left of the Confederate line, and had been instructed by Gen. J. E. Johnston to endeavor to prevent any progress of Sherman's right toward the railroad, the course of which was nearly parallel to the Confederate left and centre, and which was seriously menaced by Hooker's and Schofield's corps. On the morning of the 22d Schofield had advanced one division, Hascall's, on the road from Powder Springs Church to Marietta, with orders to take position on Hooker's right, near Kolb's house. Hooker, in going to the right and forward, reached to the Marietta road at Kolb's, and made connection with Hascall's division. Williams' division, massed by brigades, held Hooker's right, Geary's division was on the left. Williams and Butterfield's division was further to the left on the line of Howard's fourth corps. Williams and Hascall had very sharp skirmishing in getting into position, and from prisoners taken of Hood's corps it was learned that Hood, supported by Hardee, was about to attack, upon which both Williams and Hascall were ordered to deploy their divisions, and they threw up breastworks, Hascall in heavy woods and Williams, for the greater part, on open, commanding ground, giving good positions for artillery. The deployment had not been completed and but few breastworks had been thrown up when, about 5 P.M., Hood made his attack. As he advanced from the woods which had sheltered him and concealed his line, his right was met by a terrific fire of shell, case-shot and canister that tore great gaps in the line and partially broke up his formation; but he pressed on and, coming under still closer canister fire and deadly volleys of musketry, was repulsed after a most desperate struggle of less than an hour. The attack fell upon the divisions of Williams and Hascall, Williams losing only 130 killed and wounded and Hascall a less number. Hood's loss was 1,012 killed and wounded and about 100 missing. Consult 'Official Records' (Vol. XXXVIII); Cox, J. D., 'Atlanta' (New York 1882); Johnston, J. E., 'Narrative of Military Operations' (New York 1874).

KÖLCSEY, kél'sé, Ferencz, Hungarian poet and critic: b. Szödemeter, Transylvania, 8 Aug. 1790; d. Szathmár, 24 Aug. 1838. He studied at Debreczin and went to Pest as a royal officer of the law (1809), where he gave out his first efforts in poetry (1813) and founded (1826) the periodical *Elet és irodalom* (*Life and Literature*), for which he contributed a large number of articles on philosophy, art,

history and criticism. He was a member of the Hungarian Diet (1832-36) and the chief orator of the Liberal party. The Hungarian Academy elected him a member. His 'Journal of the Landtag, 1832-36' (Pest 1848) is interesting. He was the author of the Hungarian national hymn. His complete works were published by P. Szemere (2d ed., Pest 1863).

KOLDING, kōl'ding, Denmark, a town on the east coast of Jutland, situated on Kolding Fiord, a small bay of the Little Belt, and the junction of several railways. The town does a good shipping business as well as considerable trade in lumber, grain and other products. On the northwest side is the picturesque ruin of the burned (1808) royal castle Koldinghuus, built in the 13th century for the residence of the Danish kings. In 1849 the Schleswig-Holstein army under Bonin defeated the Danes here, causing much damage to the town. An antiquarian and historical museum is here. The population, about 14,219. Consult Fühn, 'Efterretninger om Kjøbstaden Kolding' (Kolding 1848-60).

KOLHAPUR, kō'la-poor', or KOLAPUR, India, capital of the state of the same name, is terminus of one of the Southern Mahratta Railway's branches. It is 144 miles south by east of Poona and 188 miles south-southeast of Bombay, situated on the Panchganga River, which is crossed here by a bridge. Numerous fine modern buildings include the palace of the Rajah, government offices, city hall, treasury, etc. From its interesting Buddhist remains this must have been once a religious centre of importance, evidenced in temples, shrines, caves cut into the rock and decorated, etc. Pop. 69,860.

KOLHAPUR, or KOLAPUR, India, the principal state under the Bombay government, covering an area of 3,217 square miles. In the western division it is covered with its mountainous Ghats, but the eastern section has the fertile Deccan plain. The western Ghats furnish little else than lumber and are the strongholds of the feudatory Mahrattas. The vegetable produce of the valleys and plains are rice, millet, cotton, tobacco, sugar-cane, etc. The overlords, or rajahs, claim descent from Sivaji the Great, the Mahratta Empire's founder. Pop. 833,726.

KOLIN, kō-lēn, Czechoslovakia, this Bohemian city is in part termed Neukolin and is built on two islands produced by the river Elbe at this point and crossed by two iron bridges. It is reached by two railways—one leading to Prague (Praha), the capital, 35 miles to the west—and is the seat of government offices.

It contains the 14th century Gothic Bartholomew church, an Evangelical church and a synagogue, an ancient palace and townhall, gymnasium, commercial and trade schools, two sugar and two machine factories, several chemical works, petroleum refinery, two breweries, etc. It does a large trade in vegetables and fruit grown in the vicinity. A noted battle was fought here 18 June 1757 between the Austrians under Daun and the Prussians under Frederick the Great, ending in the latter's defeat and the consequent raising of the siege of Prague as well as the evacuation of Bohemia, together with a battle loss of 14,000 casu-

alties, 29 standards and 43 cannon, while the Austrians lost about 8,000. Pop. 43,958, mostly Czechs.

KOLLÁR, kôl'lâr, Jan, Czech poet and archæologist: b. Mossocz, Hungary, 29 July 1793; d. Vienna, 24 Jan. 1852. He studied at the Pressburg Lyceum (1812-15) and then at Jena, becoming Slovak preacher (1819) to the newly-founded Evangelical Community in Pest. His first work was a collection of short poems, 'Basné' (Prague 1821), followed by 'Slavy Dcera,' the Daughter of Slava, (Pest 1832). The work was added to in further editions (Pest 1845; Vienna 1852; Prague 1862). In these celebrated poems he gives expression to his pain over the suppression of his race under German kultur. He next brought out a praiseworthy collection of Slovak folk-songs, 'Narodnie zpěvansky' (Pest 1834-35). Of his other works should be mentioned 'Rozpravy o jmenach, etc.' (ib. 1830) concerning the names and ancient monuments of the Slovak peoples. With the fight for the freedom of his language in Hungary the entire Slovak youth congregated around the noted poet, although he tried to repress the tendency to Panslavism. He was appointed professor of archæology at the University of Vienna (1849). After his death appeared the archæological work 'Staroitalia slavjanska' (Vienna 1853; Prague 1863) concerning Slavonic Italy. A collection of his works, containing the poet's autobiography, was published (Prague 1862-63) and a second edition (1868), but both are incomplete.

KÖLLIKER, kē'li-kēr, Rudolph Albert von, Swiss anatomist and physiologist: b. Zürich, 6 July 1817; d. Würzburg, Bavaria, 13 Nov. 1905. He studied at Zürich, Bonn and Berlin and became an assistant of Henle (1842), and was admitted to the faculty of the university at Zürich (1843) as docent. He received the degree of professor of physiology and comparative anatomy (1845) but moved to Würzburg (1847) where he was appointed professor of physiology and comparative anatomy. He taught anatomy, microscopies and comparative anatomy (1866-1902) and was acknowledged the highest authority on general microscopical anatomy from the time of the publication of his 'Handbuch der Gewebelehre' (1852; 6th ed., Leipzig 1889-96). Much honor is due him for his epoch-making researches in evolution and zoology, more especially respecting the molluscs and worms in which he was a pioneer. He wrote voluminously; his principal works include 'Ueber die Pacinischen Körperchen' (Zürich 1843), written in collaboration with Henle; 'Mikroskopische Anatomie oder Gewebelehre des Menschen' (Leipzig 1850-54); 'Entwicklungsgeschichte des Menschen und der höhern Tiere' (ib. 1861); 'Icones histologicæ' (ib. 1863-65); 'Entwicklungsgeschichte der Cephalopoden' (Zürich 1844); 'Die Schwimmpolypen von Messina' (Leipzig 1853); 'Die normale Resorption des Knochengewebes' (Leipzig 1873); 'Grundriss der Entwicklungsgeschichte des Menschen und der höhern Tiere' (ib. 1880). He edited *Zeitschrift für wissenschaftliche Zoologie* from 1849 in collaboration with Siebold, and with Ernest Ehlers, later. An accomplished linguist,

he was also a great traveler, well known in all leading European educational centres. Consult his 'Erinnerungen aus meinem Leben' (Leipzig 1899).

KOLMAR, or **COLMAR**, France, chief city of the district of the same name in the liberated provinces of Alsace-Lorraine, in the French department of Haut Rhin, 40 miles south-southwest of Strasburg. Its fortifications were destroyed in 1673 and it is now surrounded by boulevards and entered by three gates. Here is the public library with 80,000 volumes and some pictures by Schön, Albert Dürer, etc.; and the museum, where, among other curiosities, a remarkable aërolite is preserved, which fell near Ensisheim in 1492 and originally weighed about 284 pounds. The portion here weighs about 142 pounds. Kolmar has manufactures of printed goods, calicoes, silks, etc., besides cotton-spinning mills, tanneries and chamois-leather works. It has a considerable trade in the manufactured goods of Alsace, and in iron, grain, wine, madder, etc.; and in colonial produce, with which it supplies Switzerland. It became one of the free imperial cities in 1226, and as such became a place of consideration. In 1632 it was taken by the Swedes, who maintained possession for two years. It was united to France in 1697 by the Peace of Ryswick, and surrendered to Germany by the Treaty of Versailles, 26 Feb. 1871. In the French invasion of Alsace which followed the outbreak of the Great European War in 1914, Kolmar was captured, but soon lost. Pop. 46,518.

KÖLN. See COLOGNE.

KOLO, kô'lô, Poland, a town in Kalish, County of Lodz, situated on an island in the river Warthe (Varta). It has a Benedictine church, several factories and a population of 11,655 in 1910. In the World War this town was one of the bases of the Germans in their first drive at Warsaw and it was a passing point for troops in the following expeditions against Warsaw. The neighborhood contains a number of important brick kilns.

KOLOKOTRONIS, kô'lôk-ô-trô'nîs, Theodoros, Greek general: b. Karytena, Arcadia, 15 April 1770; d. Athens, 15 March 1843. He took part in the sieges of Tripolitza, Nauplia and Corinth and invaded Livadia (1821) as a leader of the Klephts against the Turks. In the next campaign he beat the Turks at Kleones and Phlius. He seized Nauplia and made himself governor (1823) and, by force of threats, was appointed commander-in-chief and, later, vice-president of executive council. Fighting adversely against the government troops under Guras, he withdrew to Karytena and was made state's prisoner (1825). The campaign losses of the Greeks caused them to entrust him with an army-corps and he fought adversely against Ibrahim Pasha. Under Count d'Istria he acted as general in the Peloponnesus and was chosen a member of the provisional government commissioned on the death of the president, sided with the Russians against the government. He turned against the regency, but was arrested (1834) and condemned to death for high treason, but the sentence was changed to King Otho to 10 years' imprisonment. On the king coming of age and ascending the throne

in 1835, he was pardoned and his rank of general was restored.

KOLOMAN or **COLOMAN**, kô'lô-män (Hungarian KÁLMÁN), king of Hungary: b. 1070; d. 1114. The natural son of Geza I of the Árpád dynasty, he took possession of the throne in 1095, on the death of his uncle, Ladislas I. In 1097 he quelled an insurrection of the Croats, and by 1102 he had conquered Dalmatia. The efforts of Emperor Henry V to place Almos, legitimate son of Geza, on the throne were unsuccessful, and Koloman had Almos and the latter's son Béla (later King Béla II) blinded. A learned man and a good administrator, Koloman did much to improve the laws and finances of the kingdom.

KOLOMNA, kû-lôm'nà, city, USSR, located in the Moscow Region of the RSFSR, near the junction of the Moskva and Oka rivers, 65 miles southeast of Moscow. Besides the ruins of a kremlin built in 1585, it has the beautiful Cathedral of the Assumption of the Blessed Virgin (1672), the Church of the Resurrection (13th to 14th centuries), and several other old churches. A major industrial center, it produces locomotives, freight cars, machinery, munitions, and ships.

First mentioned in 1177, Kolomna suffered destruction during the Tatar invasions of 13th century. In 1301 it was annexed to Moscow. Pop. (1939) 75,139.

KOLOMYYA, kû-lû-mi'yà (Pol. KOŁOJA; Ger. KOLOMEA), city, USSR, located in Stanislaw Region of the Ukrainian SSR, on Prut River, 30 miles south-southeast of Stanislaw. Its products include pottery, textiles, chemicals, cement, machinery, and refined petroleum.

Founded in the 12th century, Kolomyya suffered from Tatar and Walachian attacks in the 14th and 16th centuries. It was part of Poland till 1772, when it passed to Austria. Restored Poland in 1919, it was ceded to the USSR in 1945. Pop. (est. 1938-1939) 40,000.

KOLOZSVAR. See CLUJ.

KOLREUTER or **KOELREUTER**, kûl'-i-tër, Josef Gottlieb, German botanist: b. Ulz, Württemberg, April 27, 1733; d. Karlsruhe, Baden, Nov. 12, 1806. Educated at Berlin and Leipzig, he became professor of natural history and director of the botanical gardens at Karlsruhe in 1764. An early experimenter in the hybridization of plants, he published his findings in *Vorläufige Nachricht von einigen das Geschlecht der Pflanzen betreffenden Versuchen und Beobachtungen* (1761-1766). Köreuter studied the fertilization of plants and recognized the importance of insects and of the wind in pollination.

KOLTSOV, kûl'-y'-tsóf, Aleksei Vasilyevich, Russian lyric poet: b. Voronezh, Russia, March 3, 1809; d. there, Oct. 29, 1842. While working as a cattle dealer, he educated himself by studying the works of great authors and began to write poetry. In 1835, 18 of his poems were published under the title *Stikhotvoreniya*, and a complete edition, with a biography by the great critic Vissarion Belinski, appeared in 1846. He is known as the Russian Burns.

KOLYMA or **KOLIMA**, kô-lé'mà (Russ. kû-lî'mà), river, USSR, in the Asiatic portion of the RSFSR. Rising in the Kolyma Range in Khabarovsk Territory, it flows north and northeast for 1,110 miles through the Yakutsk ASSR to the Arctic Ocean. Its chief tributaries are the Omolon and Anyui. From June to October the Kolyma is navigable to Verkhne Kolymsk.

KOMANDORSKIE ISLANDS, kû-mûn-dôr'ski-yë (Eng. COMMANDER ISLANDS), island group, USSR, 110 miles east of Kamchatka Peninsula in Bering Sea. Part of Kamchatka Region, Khabarovsk Territory, it consists of two main islands—Bering, on which Vitus Bering (q.v.) died in 1741; and Medny—and two islets, with a total area of 850 square miles. Inhabited chiefly by Aleuts, the islands serve as a fishing base and as a preserve for fur seals and sea otters.

KOMARNO, kô'mär-nô (Ger. KOMORN; Hung. KOMÁROM), town, Czechoslovakia, situated at the confluence of the Danube and Váh rivers, 55 miles southeast of Bratislava. It has a monument to György Klapka (q.v.), who held out against the Austrians in 1849 in the old fortress, built in the 15th century. Maurus Jókai (q.v.) was born at Komárno. A river port, the town has shipyards, flour mills, and machinery and textile plants. Until 1920 it belonged to Hungary and included the present Hungarian city of Komárom. Pop. (1947) 15,461.

KOMI AUTONOMOUS SOVIET SOCIALIST REPUBLIC, kô'mi, autonomous republic, USSR, situated in the RSFSR, bounded on the north by the Nenets National District, on the east by the Yamalo-Nenets and Khanty-Mansi national districts, on the southeast by the Molotov Region, on the south by the Komi-Permiak National District and the Kirov Region, and on the west by the Arkhangelsk Region. It has an area of 156,200 square miles. The capital is Syktyvkar. Much of the northern area consists of tundra, while two thirds of the southern part is covered by forests. The chief river is the Pechora. Until 1942, when a railroad was completed across the republic, its economy depended on fishing, trapping, lumbering, and a limited agriculture. Thereafter there was considerable development of coal, petroleum, iron, and grindstone resources. Pop. (est. 1947) 450,000.

KOMSOMOLSK, kôm-sô-mòl'sk', city, USSR, situated in Khabarovsk Territory of the RSFSR, on the Amur River, 165 miles north-northeast of Khabarovsk, with which it is connected by rail. Begun by members of the Komsomol in 1932, it developed rapidly as an industrial center. Its products include steel, ships, refined petroleum, lumber, paper, aircraft, and processed food. Pop. (est. 1946-1948) 150,000.

KOMURA, kô-môo-rà, MARQUIS Jutaro, Japanese statesman: b. Hyuga Province, Japan, September 1855; d. Hayama, Nov. 24, 1911. After being graduated from Harvard University in 1877, he returned to Japan and entered the Department of Justice. In 1884 he was transferred to the Foreign Office. He served as chargé d'affaires in Peking just prior to the Sino-Japanese War of 1894-1895. In 1896 he was appointed vice minister of foreign affairs, in 1898 minister to the United States, and in 1900 minister to Russia. In

1901 he was recalled home to become foreign minister; he held this post until 1906, covering the period of the Russo-Japanese War, and taking part in the peace negotiations at Portsmouth, N. H. From 1906 to 1908 he was Japanese ambassador to Great Britain, and for the next three years he was again foreign minister. He had negotiated the Anglo-Japanese Alliance as foreign minister in 1902; and in 1911, while once more in that office, he agreed to modifications in it. He professed sincere admiration for Great Britain and the United States. In 1907 he was created count; and in 1911, marquis.

KONDYLES or **KONDYLIS**, kôn-thé'lyès, Georgios, Greek general and statesman: b. Pruso, Eurytania, Greece, 1879; d. Athens, Jan. 31, 1936. He entered the Greek Army as a private, fought in the Balkan Wars and in World War I, during which he commanded a regiment under the provisional government of Eleutherios Venizelos at Salonika. After the return of King Constantine to Greece in 1920, he retired to Istanbul, where he became a leading supporter of Venizelos. He then took part in the revolution which ousted Constantine (1922), crushed a counterrevolution in Macedonia (1923), and became minister of war of the Greek Republic in 1924; minister of interior, 1924–1925. Exiled by the coup d'état of Theodoros Pangalos in 1926, he was released and returned to Athens to engineer the coup which overthrew the Pangalos government, Aug. 22, 1926. Becoming premier until the elections of November, he handed the government over to Alexandros Zaïmes and retired to France, returning to Greece in 1930. Gradually turning against Venizelos, he was minister of war, 1932–1933 and 1933–1935, in the cabinet of Panages Tsaldares, suppressing the uprising in favor of Venizelos in March 1935. Finally, on Oct. 10, 1935, he carried out a coup which overthrew the Tsaldares government. A plebiscite led to the restoration of George II, Nov. 25, 1935. Differences with the king, however, led to his resignation, Nov. 30, 1935.

KONEV, kó'nyûf, Ivan Stepanovich, Russian military officer: b. Ladeino, in the Podosinovskii district of the Archangel (Arkhangelsk) Region, R.S.F.S.R., Dec. 27, 1897. The son of a peasant, at the age of 12, after a village school education, he went to work as a lumberjack. In 1916 he was called up for service in World War I, and the next year fought in the ranks on the Tarnopol front against the Germans. He joined the revolutionaries early in 1917 and, in November, he helped in confiscating the property of the church and the landowners in his native district.

Joining the Red Army in 1919, he served against the White Russian forces in Transbaikalia headed by Grigori Seménov and Aleksandr Vasilievich Kolchak, and was in command of an armored train in an attack upon the Japanese who had advanced from Vladivostok into the Far Eastern Republic. In March 1921, he took part in the Soviet operations against mutinous sailors in Kronstadt, and then, having chosen the army for his life career, he studied at the military academy at Frunze. He became a commissar in the Red Army in 1922, and two years later he was promoted political commissar of an army corps. From 1931 to 1934 he served as a member of the All-Union Central Executive Committee, and in 1934, having graduated with highest honors at

the Frunze Military Academy, he was given command of an infantry division. In September 1938 he was appointed commander of the Second Far Eastern Army, and in June 1940 he reached the grade of lieutenant general.

He was serving on the western front of Russia when the Germans invaded the country in June 1941. After a counteroffensive which temporarily checked the enemy, he was given command of all troops on the northwest, and under Semén Konstantinovich Timoshenko he directed the tank forces which, in December, barred the attempts of Gen. Heinz Guderian to reach Moscow. Together with Georgi Konstantinovich Zhukov, in the summer of 1942 he launched a drive on the front, west of Moscow, which diverted many German troops from the assault on Stalingrad; and in 1943, through his advance toward Orel and Belgorod, he assisted in bringing the last German offensive in Russia to a standstill. By the close of the year he had driven the Germans across the lower reaches of the Dnieper River, and in February 1944, he was promoted marshal of the Soviet Union for the skill displayed in annihilating the enemy Eighth Army in a pocket west of Cherkassy. His Second Ukrainian Army crossed into Bessarabia on March 19, 1944, and within two weeks drove the enemy back to the line in the south from which they had launched their invasion in 1941; and in August, having crossed the Vistula, they had forced the Germans into full retreat. Transferred to the command of the First Ukrainian Army, in January 1945 he helped in the liberation of Poland; and after sweeping the Germans from their mountain positions in the Sudetenland, he led his victorious troops into Germany itself. He commanded the occupation forces in Austria, 1945–1946, and in November 1946 became commander of all Russian ground forces.

KONG, kông, town, Ivory Coast, French West Africa; formerly capital of a native kingdom. It is 260 miles north of Abidjan, on the railroad between that town and Bobo-Dioulasso. The principal products of the Kong District, of which it is the capital, are cotton and coconuts; gold and manganese are mined. One of the first white men to visit the area was Louis Gustave Binger, who in 1888 persuaded the local ruler to place it under French protection. The protectorate was merged into the Ivory Coast colony in 1893. The town is now largely abandoned.

KONGO, variant spelling of Congo.

KONGSBERG, kôngs'bär, town, Norway; in Buskerud County. It is 40 miles west-southwest of Oslo, on the river Lågen. The famous silver mines in the vicinity, discovered in 1623, are now practically exhausted, but the town has a hydroelectric power plant and an arms and munition factory. There is a monument to Kongsberg's founder, Christian IV. Pop. (1946) 7,852.

KONIG, kú'nîk, Friedrich, German printer and inventor: b. Eisleben, April 17, 1774; d. Oberzell, Jan. 17, 1833. He learned the art of printing at Leipzig (1790–1794), and was active (1803–1805) in improving the printing press at Meiningen and Suhl. Lacking the means to carry out his experiments, he appealed, unsuccessfully, to the Saxon and Austrian governments, then traveled to Saint Petersburg (1806), only to be

gain disappointed. He went to London and made an agreement with the printer Thomas Bensley (1809) to carry out his plans for a book-printing machine. They obtained a patent for a platen press (1810), but the flat-plate principle was soon discarded for the cylinder press. Patents followed (1811, 1813, 1814). He returned to Germany (1817) and formed a company (König and Bauer) at Oberzell and established a steam press factory. In partnership with Johann Friedrich Cotta of Stuttgart, they built a factory for machine-made paper at Schwarzach, near Würzburg (1828).

KONIGGRATZ, former name of Hradec Králové (q.v.).

KONIGSBERG. See KALININGRAD.

KONIGSHOF, German name for the Czech city of Dvur Kralove (q.v.).

KONIGSHUTTE. See CHORZOW.

KONIGSKINDER, kü-nîgz-kîn'dür (Ger., King's Children), a fairy opera in three acts by Engelbert Humperdinck (q.v.), the libretto being written by Elsa Bernstein (b. 1866) under the pseudonym Ernst Rosmer. As originally composed, it had its première at Munich in 1897; Humperdinck subsequently rewrote the music in the United States, and as an opera the work was first produced at the Metropolitan Opera House, New York City, on Dec. 28, 1910. An old witch dwelling in the hills above the town of Hellabrunn had thrown a spell over a king's daughter and held her to watch a flock of geese. A ragged youth, the son of another king, encounters the goose girl in the wilds and falls in love with her, but the spell does not permit her to leave the forest. Three ambassadors from Hellabrunn, respectively disguised as a wood-hopper, a broommaker, and a fiddler, arrive to seek the missing prince, who had meanwhile come to the city and accepted employment as a wineherd. The witch tells the ambassadors that the first person to enter the city gates shall be their future king. The multitude are gathered to receive their king when the ragged youth enters, accompanied by the goose girl, who had been delivered from the witch's power. The nobles drive the two arrivals away with scorn. The outcasts return to the hut and are poisoned with some pastry left by the witch. A band of children sent out to find the couple discover their dead bodies lying side by side in the snow.

KONIGSMARK, kü'nîgz-märk, COUNT Hans Christoph, German army officer in Swedish service: b. Kötzlin, Brandenburg, March 7, 1662; d. Stockholm, Sweden, March 2, 1663. He was an officer in the army of the Holy Roman Empire until 1630, when he entered the employ of the Swedes. In 1636 he reached the rank of colonel, and during the next few years led several predatory expeditions into Westphalia. He served under Johan Gustafsson Baner (q.v.) during 1640-1641, and the next year under Lennart Torstensson (q.v.); at the battle of Breitenfeld, in 1642, he commanded the left wing of the Swedish Army. In 1643 he drove the Imperialists out of Pomerania, and in 1645, having been appointed governor general of the conquered cities of Bremen and Verdern, he forced the

elector of Saxony to accept an armistice. During 1646 he commanded an independent Swedish cavalry force in operations through northwest Germany, and in 1648 he served under Karl Gustav Wrangel (q.v.) at the battle of Zusmarshausen; in the latter year he was in supreme command of the Swedish Army at the battle of Prague, last engagement of the Thirty Years' War (q.v.), capturing enormous booty when he entered the city. He was raised to the rank of count in 1651, and in 1655 he was promoted field marshal. Subsequently the Poles took him prisoner and held him in captivity until 1660. He was the grandfather of Countess Maria Aurora Königsmark and Count Philipp Christoph Königsmark (qq.v.).

KONIGSMARK, COUNTESS Maria Aurora, Swedish beauty and wit: b. May 8, 1662; d. Quedlinburg, Germany, Feb. 16, 1728. She was a granddaughter of Count Hans Christoph Königsmark (q.v.). In 1694 she went to Saxony seeking her missing brother, Count Philipp Christoph Königsmark, and at the court in Dresden met Elector Augustus II, Frederick (qq.v.). Becoming his mistress, in 1696 she bore his son Maurice de Saxe (q.v.); a year later her wise counsel helped her lover to obtain the throne of Poland. She wrote poems in French and German, a drama *Cecrops*, and a comedy in French verse, played in Stockholm. At her death she was coadjutor abbess of Quedlinburg. Voltaire described her as "the most famous woman of two centuries." Paul Burg (b. 1884), the historical novelist, wrote *Die schöne Gräfin Königsmark* (1920).

KONIGSMARK, COUNT Philipp Christoph, Swedish nobleman: b. Stade, Germany, March 14, 1662; d. ?1694. He was the grandson of Count Hans Christoph Königsmark and brother of Countess Maria Aurora Königsmark (qq.v.). Early in life he made the acquaintance of Saxony's heir apparent, later Elector Augustus II, Frederick (q.v.), residing at Dresden and holding the rank of colonel in the Saxon Army. During 1685-1686 he served in Hungary against the Turks, and subsequently he entered the Hanoverian Army. On the discovery that he was a secret lover of Sophia Dorothea, wife of George, crown prince of Hanover (later George I of Great Britain), he fled, July 1, 1694, and it is believed that he was assassinated. Consult Wilkins, W. H., *The Love of an Uncrowned Queen* (London 1900).

KONIGSSTUHL, kü'nîgz-shtül, a place in Germany of historic interest. It is near Rense, on the left bank of the Rhine, in the Prussian Rhine Province. In medieval times the junction of four of the German electorates, it became the meeting place of the electoral assemblies. In 1308 Henry of Luxembourg (Henry VII) was elected German king here; and later elections were held, and treaties made, on the same spot. Emperor Charles IV erected here in 1376 a small octagonal building to which the name of Königsstuhl was given. It was rebuilt in 1843, having fallen into ruins in the 18th century.

KONIGSWINTER, Germany, town of the Rheinland Province, on the right bank of the Rhine 6 miles southeast of Bonn. It is situated at the foot of the Siebengebirge (Seven Mountains), and is a starting point for tourists to the

Drachenfels, which rises behind the town. Pop 4,724.

KONINCK, kō'ningk, **David de**, Dutch painter of still life: b. Antwerp, 1636; d. about 1699. He was a pupil of Peter Boel at Antwerp, and became master of the Saint Luke's Guild. Having traveled through Germany and France, in 1670 he went to Rome. In 1697 he returned to Antwerp, and two years later he settled in Brussels. He painted rabbits and other animals, alive and dead, fruits, flowers, and other still life, after the style of John (Jan) Fyt (q.v.). His pictures are rare. The Royal Museum at Vienna acquired one of his paintings of dead ducks.

KONINCK, Philips de, Dutch landscape and portrait painter: b. Amsterdam, Nov. 5, 1619; d. there, October 1688. He studied and perfected himself in panoramic landscape painting under Rembrandt (q.v.). His works are especially noteworthy for their depiction of atmosphere, light, and space. The National Gallery, London, has a replica of his *View of the Mouth of a River*, which is in the museum at The Hague. In the Amsterdam Museum are *Entrance to a Forest* and others; and among his paintings in the Brussels Museum is *View of the Environs of Scheveningen*. Examples of his portraits, likewise in the style of Rembrandt, are in the museums at Oslo and Copenhagen; and the Uffizi Gallery at Florence has a self-portrait. Several of his landscapes and portraits are in the Metropolitan Museum of Art, New York City.

KONISCOPE, an instrument for indicating the amount of dust in the atmosphere; the word comes from the Greek, *konis*, dust, and *skopein*, to see. The air to be tested is drawn into a glass tube, where it is moistened by damp paper, and then expanded to cool it. During the expansion, moisture condenses on the particles of dust, which are rendered visible in the nature of fog. The density of the fog indicates the degree of dust present in the tested sample.

KONJAK, a perennial tuberous herb (*Amor-phophallus rivieri*) of the natural order Araceae, a native of Japan. The much-divided leaves are about four feet across, solitary, on a tall marbled leafstalk. The flowers appear before the leaves, and are clustered, like those of the cuckoopint, round a deep red spike which protrudes far above the rosy-green spreading spathe. It is largely cultivated by the Japanese, who obtain a large quantity of starchy food from the tubers.

KONKAN, kōng-kān', India, territory on the seaboard of Bombay, some 300 miles in length and 40 miles broad, bounded on the north by the Portuguese district of Damão and on the south by (Portuguese) Goa; the Western Ghats constitute the eastern boundary of the area, and on the west its shores are washed by the Arabian Sea. The territory constituted a Mahratta state until 1818, when the British annexed it; subsequently most of it was administered as districts of the Bombay presidency, three small states surviving under British control.

KONOW, kō-nōv', **Sten**, Norwegian Indologist and philologist: b. Aurdal, 1867. After at-

tending Oslo University he went to Germany for further study at the University of Halle, and in 1894 he was appointed assistant librarian at Berlin University. During 1899 he was a docent at Oslo, and the following year, declining the opportunity to become assistant professor of Sanskrit at Harvard University, he went to India as a member of the Linguistic Survey; in 1906 he became government epigraphist of India. Returning to Oslo in 1909, he was appointed professor of Indian philology. He edited numerous Indian texts, including those in the Harvard Oriental series, and published a *Bashgali Dictionary* (1913) and *India's Religions* (1924).

KONOYE, kō-nō-yē, **PRINCE Fumimaro** Japanese statesman: b. Tokyo, October 1891; d. there, Dec. 15, 1945. A member of the distinguished Fujiwara family, that had been connected with the Imperial House since the dawn of modern Japanese history, he was trained to his traditional offices in Japanese schools. After graduating at the Kyoto Imperial University with a law degree in 1917 he became a member of the nonregular staff of the home ministry, and in 1919 he attended the Paris Peace Conference (concluding World War I) as one of the secretaries of Prince Kimmochi Saionji (q.v.). Back in Japan, he took his hereditary seat in the House of Peers; he became vice president in 1931, and from 1933 till 1937 he served as president of that body. In 1934, after the Japanese invasion of Manchuria had disturbed friendly relations with the United States, he was sent to the latter country as member of a mission whose duty it was to restore good will. Two years later he refused the offer of the premiership of Japan but on June 3, 1937, a month before the Japanese aggressive attack upon China, he formed a "national union" Cabinet with himself as premier. He resigned on Jan. 4, 1939, as a result of the army's demand for greater control of the Japanese economic system, and subsequently he became minister of state without portfolio and president of the Privy Council. Recalled to the premiership for a second time on July 23, 1940, he effected a drastic reorganization of the Cabinet and created a new "national party" along fascist lines; on August 1 he announced that his government would pursue a totalitarian policy which would include Japanese domination over Asia. During his tenure of office, the Burma Road (into China) was closed by the British on demand of the Japanese government, French Indochina was invaded by Japanese troops, Japan signed a pact adhering to the "Rome-Berlin Axis," and relations with the United States concerning control of the Pacific became greatly strained. Nevertheless Konoye claimed subsequently to have been pro-American in his attitude at this period, citing as proof the fact that he had been willing to discuss with the State Department means for lessening the tension respecting the situation in the Pacific. His Cabinet resigned on July 16, 1941, but two days later he returned to his post as premier and again shuffled his Cabinet. The third Konoye government lasted only until Oct. 16, 1941, when he resigned because of disagreement among ministers "concerning the manner of executing national policy." Within less than two months Japanese forces made their surprise attack upon Pearl Harbor, and involvement of both Japan and the United States in World War II ensued. After

the American occupation of Japan in 1945, Konoye came briefly to the fore because of his undertaking to write a new Japanese constitution patterned along democratic lines. However, Allied headquarters named him one of the war criminals on December 6, and on the eve of surrendering to the authorities he took his own life by poisoning. In a note which he left he confessed: "I have been most gravely concerned with the fact that I have committed certain errors in the handling of state affairs since the outbreak of the China incident. I cannot, however, stand the humiliation of being apprehended and tried by an American court."

KONRAD DER PFAFFE (the priest), *kōn'rät der pfäf'ë*, German medieval poet: flourished in the middle of the 12th century. He belonged to the priesthood, and was in the service of Henry X (1108?-1139), known as Heinrich der Stolze (Henry the Proud), who was duke of Bavaria (1126-1138) and Saxony (1137-1139). About 1131 he composed the Middle High German epic *Rolandshied* (q.v.), a free version of the Old French epic *Chanson de Roland* (q.v.). It is probable that he also compiled the *Kaiserchronik* (about 1150).

KONRAD VON HOCHSTADEN, *fōn hōk'shtä-dēn*, German prelate and statesman: d. Sept. 28, 1261. From 1238 he was archbishop of Cologne. He supported the papacy against Frederick II, Holy Roman emperor, but was defeated, wounded, and taken prisoner near Lechenich in 1242. After being freed he renewed the conflict, and in 1248 crowned William of Holland as emperor at Aix-la-Chapelle. During 1249-1250 he was papal legate in Germany. After William died in 1256 he secured selection of Richard of Cornwall as his successor, and the following year he crowned him at Aix-la-Chapelle.

KONRAD VON MARBURG, *mär'bōörk*, German priest and papal inquisitor: d. near Marburg, July 30, 1233. A member of the Dominican Order, from 1226 he was confessor to the wife of the landgrave of Thuringia (later Saint Elizabeth of Hungary). In 1227 Pope Gregory IX appointed him inquisitor of the monasteries of Germany. Because of his fanatical and limitless persecution of heretics throughout the Rhine, Thuringen, and Hesse, in 1232 he was brought before an Imperial Convention at Mainz. Released with censure, on his return journey he was assassinated. The pope canonized him as a martyr.

KONRAD VON MEGENBURG, *mä'gēn-berk*, German author and naturalist: b. Bavaria, 309?; d. Regensburg, 1374. Among other numerous Latin works, he translated into German the treatise *De Sphaera Mundi*, written by Johannes de Sacrobosco (q.v.); the first work in German dealing with astronomy and physics, it was printed in several editions by 1539. His *Das Buch der Natur*, based on the *Liber de Naturis rerum* by Thomas of Cantimpre, is a general and fairly systematic work on natural history, interesting as evidence of the knowledge of that day; it was written between 1349 and 1351, and was published in Augsburg in 1475.

KONRAD VON WÜRZBURG, *vürts'-bōrk*, Middle High German epic and lyric poet:

b. possibly at Würzburg about 1220; d. Basle, Aug. 31, 1287. For his time he had developed, through the study of the poems of Hartmann von Aue (q.v.) and Gottfried of Strassburg (q.v.), an extreme perfection of verse and style, and delighted in the play of synonyms, which contribute much to the beauty of his short poems, narratives, and legends. His longer romances seem never to achieve the same degree of artistic unity as his shorter works. His earliest poems were the *Nantes Tournament* and the *Legend of Saint Nicholas* (which Bartsch published together with Konrad's later and longest work, *Partenopier and Meliur*, Vienna 1870). After settling at Strassburg, where most of his literary life was spent, he wrote the poetic short stories *Otto mit dem Bart*, *Der Schwanritter*, *Das Herzmare*, the allegorical scene, *Der Welt Lohn* (reprinted in Müller's *German Classics*, New York 1900), and his best tale, *Engelhart und Engeltraut* (published by Haupt, 1844, by Joseph, 1885). His huge epic *Partenopier and Meliur* was written in 1277, after the French poem of Denis Piramus, of which Konrad had a translation made for his own use, and was followed by the incomplete *Trojan War*, for which Konrad used as sources not only Benoît de Saint More, but also Statius and Ovid. Consult translations into Modern German in Reclam's *Universal-bibliothek*; Janson, *Studien über Konrad von Würzburg* (Marburg 1902); Rösler, Marg., *Die Fassungen der Alexiuslegende* (Wien 1905).

JACOB WITTMER HARTMANN.

KONSTANTINOV, Aleko Ivanitsov, Bulgarian author: b. Sistovo, 1863; d. near Pechtera, 1897. After studying in Russia he returned to Bulgaria in 1885 and entered the judiciary. An ardent liberal, he earned the hate of reactionaries who assassinated him. His gift of humor is revealed in the satirical novel *Bai Ganyu*, portraying the modern type Bulgarian, and *To Chicago and Back* (1893). He also translated works of Pushkin, Lermontov and Molière. See reference in BULGARIAN LANGUAGE AND LITERATURE.

KONSTANZ. See CONSTANCE.

KONTI, *kōn'ti*, Isidore, American sculptor: b. Vienna, Austria, July 9, 1862; d. Yonkers, N. Y., Jan. 11, 1938. He studied art in Vienna at the Imperial Academy, and in 1886 obtained a scholarship to the Meisterschule of Karl Kundmann, then in Rome. In 1890 he moved to the United States, settling in New York City and there becoming associated professionally with Karl Theodore Francis Bitter (q.v.). He was well known for monumental decorative work executed for a number of expositions, the first of which was, in 1893, the World's Columbian Exposition, Chicago, Ill. In New York City, he executed *West Indies and East and North River* for the Dewey Arch. Work for the Pan-American Exposition, Buffalo, N. Y., in 1901, included *The Despotism Age* and, for the Temple of Music, four colossal groups entitled *Heroic Music*, *Lyric Music*, *Dance Music*, and *Sacred Music*. Much favorable comment was made on his work for the Saint Louis, Mo., Exposition in 1904, this including two grand cascade fountains typifying the Atlantic and Pacific oceans and, for the Manufacturers' Building, a monumental group entitled *Progress*. Among his other numer-

ous creations were the McKinley memorial, Philadelphia; a monument to Kit Carson and Lieutenant Beal at the National Museum, Washington; statues of Justinian and Alfred the Great for the Cleveland, Ohio, courthouse; bronze statues *Genius of Immortality* Metropolitan Museum; Hudson-Fulton memorial, Yonkers; the Bishop Horatio Potter memorial in the Cathedral of Saint John the Divine, New York City. His work was considered by contemporary experts as full of charm and refinement.

KONYA, or **KONIA**, kón'yā, Turkey, a city of Anatolia, 300 miles east of Izmir (Smyrna), capital of a vilayet of the same name; the Iconium of the Phrygians. The Persian poet Jalal-ud-din Rumi (q.v.) lived at the Seljuk court at Konya; his tomb is preserved in one of the great mosques of the city, which also contains the first monastery of the whirling dervishes. Carpets, silk, and cotton goods are manufactured, as well as gloves and hose. Konya is on the railroad line between Afyon Karahisar and Seyhan (Adana). The vilayet (area, 39,410 square miles; pop. 569,684) is traversed in the south by the Toros Dagları (Taurus mountains); while it contains chromium, gold, mercury and other minerals, the principal exports are livestock, cereals, cotton, and wool. Under the Diadochi (Persians) and Romans, the city of Konya was the capital of Lycaonia, and from 1073 it was the capital of the Seljuk sultans of Rum. The battle of Iconium, May 18, 1190, was the last great fight of Frederick Barbarossa (q.v.). The city was captured by Bajesid I (1392), by Mohammed II (1460), and by Ahmed, son of Bajesid II (1511); and it was occupied by Ibrahim Pasha when he captured Reshid Pasha (1832). Pop. (1940) 56,581.

KOO, Vi Kyuin Wellington (originally, KU WEI-CHÜN), Chinese statesman and diplomat: b. Shanghai, 1888. He studied in Shanghai at the Anglo-Chinese College, Yu Tsai School, and Saint John's University, before going to the United States, where he entered Columbia University in 1905 after a year's study at Cook's Academy, New York City. In 1908 he graduated, and soon after obtaining his Ph.D. in 1912 he returned to China to become secretary to President Yuan Shih-kai (q.v.). He was appointed minister to the United States in the fall of 1915, having previously been named minister to Mexico, and in 1920 he went to Great Britain as minister to the Court of Saint James. In 1919 he was Chinese delegate to the Paris Peace Conference, which followed the First World War; he represented his country at the League of Nations in 1920-22; and in 1921-22 he was a delegate at the Washington Conference. He was recalled to China in 1922 to become minister of foreign affairs; he was acting prime minister in 1923; again head of the Foreign Office in 1924 and 1931; and finance minister in 1926-27. In 1932 he became minister to France, and with elevation of that post, he was ambassador from 1936 to 1941. He was appointed ambassador to Great Britain in 1941. Over the preceding ten years, both before the League of Nations and in the countries to which he was accredited, he warned unceasingly against the granting of further concessions to Japan, pointing out "the futility of trying to turn a tiger into a kitten by giving it a dish of cream." During August-September 1944 he represented China at the

Dumbarton Oaks Conference, held near Washington, D.C., preparatory to a general and more formal international meeting; this latter, the United Nations Conference for International Organization, was convened at San Francisco, Calif., the following year, and Wellington Koo, as China's chief delegate, there signed the World Security Pact on June 26, 1945.

KOODOO. See KUDU.

KOOSOO, or **KOSIN**, a bitter drug prepared from the dried flowers of an Ethiopian plant (*Brayera anthelmintica*), which contains much tannin, and is used as a vermifuge.

KOOTENAY (koo'tě-nā) **RIVER**, Canada, a tributary of the Columbia, rising in British Columbia. It is 400 miles long. After flowing south into Montana and Idaho it again enters British Columbia; it flows into Columbia Lake, whence issues the Columbia River. It was discovered by David Thompson (q.v.) in 1808.

KOPISCH, kō'pish, **August**, German poet and painter: b. Breslau, May 26, 1799; d. Berlin, Feb. 3, 1853. He studied art in the Prague Academy (1815) and in Vienna. From 1819 to 1822 he continued painting, when an injury to his hand disabled him, and he started on travels through Italy, and in Rome and Naples applied himself to the study of local poetry and archaeology. He returned to Germany in 1828 and received the title of professor in Berlin. He removed to Potsdam in 1847 and occupied himself in writing an account of the royal castles there and in the neighborhood. Most of his pictures are mere sketches. His witty poems, clever stories, and translations, including one of Alighieri Dante (q.v.), are all included in his *Gesammelte Werke* (1856).

KOPITAR, kō-pe'tār, **Bartholomäus** (in Slovene, JERNEJ BARTEL), Slovenian Slavic scholar and philologist: b. near Ljubljana, 1780; d. 1844. He completed his scholastic studies at Vienna, where he became curator of the imperial library. In 1814 he set out on a tour of Europe which ended in France, whither he went to recover the Slavic manuscripts which the French had carried off in 1809. His *Grammatik der Slawischen Sprache in Krain, Karnten, und Steiermark* (1808) was the first Slavic grammar on true philological lines. Other works included *Glagolita Clozianus* (1836) and *Hesychii Glossographi Discipulus Russus* (1839).

KOPJE, kōp'ě, or **KOP**, an Afrikaans name, applied in South Africa to the flat-topped hills which have been produced by the denudation of an ancient plateau. Kopjes bear a marked resemblance to the buttes of the western areas of the United States, and to the tors of Cornwall, England. *Kop*, a word derived from the Dutch, means top.

KOPP, **Joseph Eutyck**, Swiss historian: b. Beromünster, canton of Lucerne, April 25, 1793; d. Lucerne, Oct. 25, 1866. He studied theology and philology in Lucerne and Freiburg, and in 1819 was appointed professor of Greek in the lyceum of the former town. While serving in the legislative body of the republic, he was led as a "conservative Catholic" into such bitter controversy with the Jesuits that in 1845 he was compelled to retire into private life. He undertook a tour, by way of Vienna to Rome, for the purpose of examining such archives as might throw light upon the history

of his native country. He was elected corresponding member of the academies of Berlin and Vienna. Self-taught as he was, he became the Niebuhr of Swiss history, and proved how her true annals had been obscured by such legends as those of William Tell, etc. Among his chief publications are *Geschichte der Eidgenössischen Bünde* (1862); *Geschichtsblätter aus des Schweiz* (1856); *Dramatische Gedichte* (1866).

KÖPPEN, kúp'ën, Peter Iwanowitsch von, Russian archaeologist and ethnologist: b. Kharkov, Russia, Feb. 19, 1793; d. Karabagh, Crimea, June 4, 1864. He was educated at the University of Kharkov and subsequently traveled widely in order to procure historical and archaeological material for his work. The outcome of his investigations, written in German, is comprised in the reports of the Academy of Saint Petersburg (now Leningrad), but among other works of his are *Kulturgeschichte Russlands* (1825) and his famous *Ethnographical Map of European Russia* (1851).

KORA. See HOTTENTOTS.

KORAN, kô-rân' (Arabic *Qur'ân*, reading ceital). As the bible of Islam, the Koran is the cripture of some 300 million Moslems (1949). Its claim to distinction among the sacred books of mankind rests upon the nature of its doctrinal core and its relation to the Prophet Mohammed, the formation of the text and the peculiar theory of revelation involved, as well as the total impact of the book upon history and the modern world. In what follows, each of the foregoing parts of the subject will be touched upon in the order indicated.

Included in the core of the Koranic message is the affirmation of the unity and sovereignty of God "Say, 'He is God alone. God, the Eternal. He begets not and is not begotten'" (112:1-3). God is enrobed with righteousness and power. His dominion extends over the whole creation, both now and forever. His judgments are inexorable. The death of man is followed by an immediate state leading to the Last Day, the Resurrection, and Retribution. In the hereafter, the ungodly will be visited with damnation; the faithful received into a Garden of physical and spiritual delight.

Central to the message is the injunction to worship God. The first sura (chapter) serves as an equivalent to the Lord's Prayer. Ritual prayers and the weekly Friday Assembly are prescribed in the Holy Book. But all this is not without the admonition that true believers are those "who remember God standing and sitting or lying on their sides" (3:192). In addition to devotional regulations, there are enactments dealing with everyday living. Whether in the laws of mine and thine, the family, the marketplace, and society at large, Islamic jurisprudence relies completely upon the Koran.

Not less integral to the inner making of the Koran are precepts regarding divine election, the brotherhood of believers, and ethical practice. Divine election is implicit in the decrees of God. The Moslem community, called into being by God, is to be governed by His elect, and its territories, bequeathed by the Almighty, must be defended even with life itself. The brotherhood of believers embraces all those of every race and

clan who are brought together by Allah. Ethical living and Islamic morality are likewise steeped in the consciousness of God's demands as they are enshrined in the Book.

In its relation to Mohammed (q.v.), the Koran deserves notice as a record of his spiritual pilgrimage. Reared by the Meccan tribe of Koreish (Quraysh), Mohammed (c. 570-632 A.D.) launched his prophetic career with an assault upon idolatry. Having thus enraged his kinsmen, wealthy custodians of the Kaaba (q.v.) pantheon, he at last fled (622) to Medina. With its harrowing experiences, the earlier Meccan period is reflected in the curt, provocative, and iconoclastic sermons which form the body of the suras (chapters) occurring towards the close of the authorized text. In Medina, the prophet became a worldly-wise, militant, and princely character, and the Koranic material produced in this latter period is patterned accordingly. It flows in a legislative, didactic, narrative style.

To the orthodox Moslem, the Koran is the standard miracle of the faith, its 114 suras being regarded as a replica of an eternal, heavenly original. While not sharing this view, modern scholarship conceives of the Koran as the product of a sincere and brilliant mind. Towards its making, Mohammed contributed the commitment and exalted vision of a truly inspired seeker after the truth.

Discussion of the textual formation of the Book evokes topics such as the codification of the text, the unique function of Arabic as the language of revelation, and the question whether the Koran may be translated. As to codification, it may well be remembered that the first Koranic utterances were memorized or written perhaps on palm leaves and tablets of stone. The emergence of rival collections moved the third caliph Othman ('Uthmân, 644-656) to canonize the codex of Medina. Early in the 10th century, an authorized version was established in Baghdad. Although a modern Egyptian conclave of divines condemned the rendering of the Koran into any other tongue, the consensus of learned opinion among Moslems does not support this position. Insofar as Islamic law is concerned, only the liturgical use of the Koran, in a language other than Arabic, is prohibited. The fact is that translations of the Koran into other languages have been made by several leading Moslems.

Inherent in its theory of revelation was the Koran's disclosure of religious essence. Any people without a divinely inspired "book," such as the Jews possessed in the Torah, the Christians in the Evangel, and the Moslems in the Koran, were reproached as dwellers in ignorance. To these, Islam (literally, submission to the will of Allah) offered itself as the true religion of nature, a simple monotheism. But while the biblical foundation of Islam is carefully conceded, the error of the Jews and Christians, signalized by their falsification of Scriptures, is emphatically set forth.

The impact of the Koran upon history provides a practical criterion for its evaluation. In the field of Arabic-Islamic literature and thought, the centrality of the Koran imparted a normative religious absolute, recognizable in almost every intellectual pursuit. Whether in philology, theology, history, letters, or any other branch of culture, the Koran became the clue to wisdom and understanding. The effervescence of Arab civilization in Spain, North Africa, the Middle East,

India, and elsewhere was presumably bound up with the spiritual, moral, and social commandments of the Koran.

In the wider sphere of universal ideas, the Book—representing in part at least a repercussion from Judaeo-Christianity—propounded an ideology which stands alone. Its anticlassical motif made it a formidable revolt against Greek rationalism and the enthronement of man as the measure of all things. In the Islamic sphere of influence it created an ethos which, though not inhospitable to Hellenistic stimuli, yet seemed to inspire a totally different way of life. It is in the realm of political theory, however, that the Koran's contribution to global harmony is obviously disputable. Its theocracy and germinal law leave little ground for the law of nations. It may be safely said that international law is not a deduction from Koranic legislation.

In the modern world, the Koran draws vitality from the luxuriant body of tradition—oral and literary, lay and theological—that surrounds its name. Supplementing the standard commentaries and exegetical works, are vast collections of sayings and daily acts, ascribed to the Prophet and his companions. From these, and the closely related mass of historical, narrative, and wisdom lore, the Koran acquires extra elucidation, commending it to the believers.

The testimony of representative 20th century Moslems confirms the view that the Koran exercises a powerful influence. Mohammed Rashid Rida, an exponent of the Egyptian Islamic reformation, wrote in 1927 that "Islam cannot live without a sound understanding of the Koran, based upon the continuity of Arabic." Sir Mohammed Iqbal (d. 1938), seer of Indian Islam, defined the main purpose of the Koran as awakening "in man the high consciousness of his manifold relations with God and the universe." Since the latter 18th century, the puritanical Wahhabi revival of Saudi Arabia has sought to restore the Koran to its pristine glory.

The heterodox Shi'ite conception of the Koran permits the religious interpreter to wring from the text far-reaching implications, on the assumption that the learned commentator is commissioned by God to discover and enunciate novel forms of religious truth. Kemalist Turkey broke virgin soil in throwing overboard many canons of Koranic interpretation, including that of the sanctity of Arabic. The Ahmadiya movement of India, centered at Qadian and Lahore, carries the Koran to the farthest ends of the earth. In Europe, Africa, and the Americas, its missionaries have produced interpretations of the Koran, designed to capture the attention of cultured people. Two other schools are constituted by the widespread Moslem mystics of India, and the diehard theologians of Egypt whose mighty fortress is the Azhar seminary of Cairo. The moderates of Islam accept the Koran as it is, seeking to interpret the allegorical and recondite passages in the light of the general principles laid down in the decisive utterances of the Book.

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KORCE (KORITSA), third city of Albania; population (1930) 22,787. Korçë is situated in fertile farming country not far from the southeastern border. Nearby are granite and limestone quarries; the town itself produces flour, tobacco, and hand-woven cloth and carpets.

KOREA, Kô-ré'a (CHOSŎN; Jap., CHŌSEN), a country of northeastern Asia, extending southward as a peninsula joined to Siberia and Manchuria, between the Yellow Sea and the Sea of Japan. In the following pages the geography of Korea, its history, commerce, industry, social life, language, literature, art, and religion are discussed under the headings:

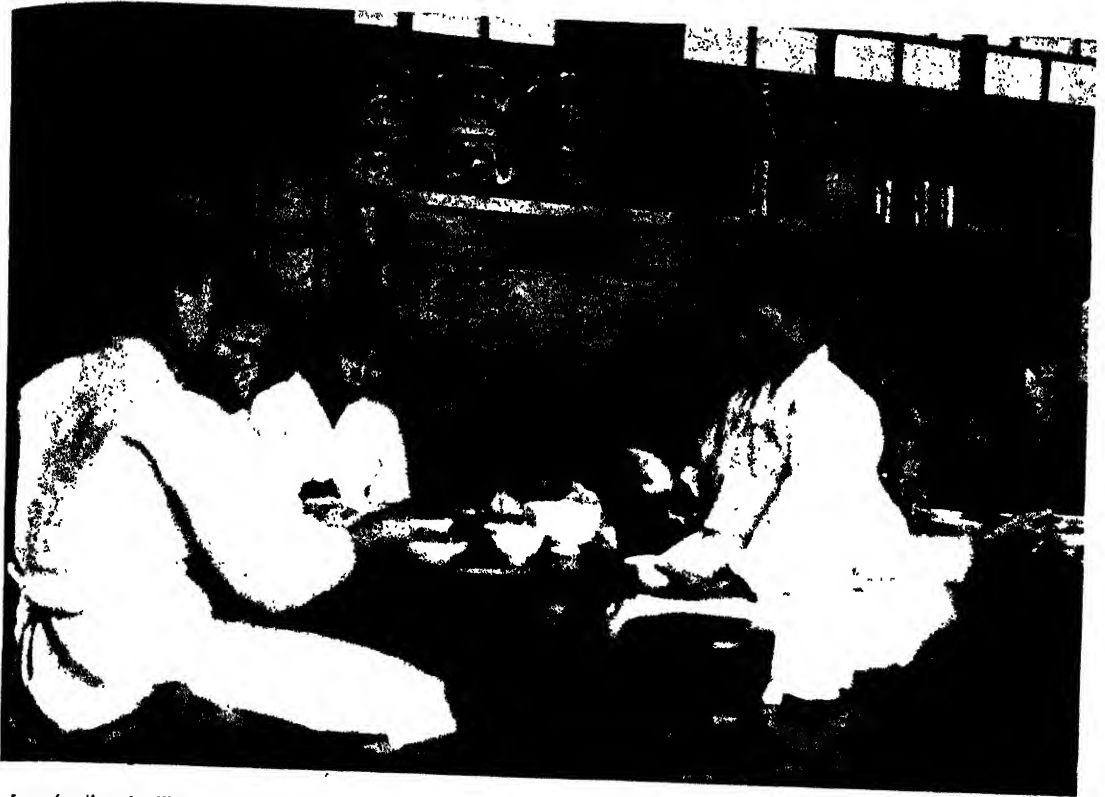
Area and Population	Transportation and Communications
Chief Cities	People
Physical Features	Education
Climate	Religion
Natural Resources	History
Agriculture	
Trade and Industry	

Area and Population.—The area of Korea is 85,246 square miles (220,795 square kilometers). The greatest length of the peninsula, north and south, is 512.4 miles, and the greatest width, east and west, is 219.6 miles. The most northerly point, near Onsŏng (Onjŏ), lies at 43°2' north latitude; Cheju-do, the southernmost island, reaches as far south as 33°12' north latitude. The easternmost point, near the mouth of the Yalu River, is Maan-do, 124°11' east longitude; the westernmost is Ullŭng-do (Utsuryŏ-tŏ), an island in the Sea of Japan, 130°54' east longitude. The land boundary is formed in large part by the Yalu (Amnok) and Tumen rivers, which separate Korea from southern Manchuria and eastern Siberia. The Russo-Korean frontier, only 20 miles long, is about 80 miles from Vladivostok. The country is divided into 14 provinces, each of which is subdivided into counties and districts.

According to the 1940 census, Korea had a population of 24,326,327, of whom approximately 97 per cent were Koreans, 2.7 per cent Japanese, and the balance foreigners, mainly Chinese. In addition, many Koreans lived abroad. In 1945 there were approximately 2,000,000 Koreans in Japan; 2,400,000 in China and Manchuria; 500,000 in Russia; and 10,000 in Hawaii and the continental United States. Most of the Japanese were repatriated after World War II, and many Korean emigrants have returned to their native land, the majority settling in the south, which has always been more densely peopled than the north. In September 1947, south Korea (the American zone, south of lat. 38°N.) had 20,300,000 inhabitants, and north Korea (the Soviet zone, north of 38°), 8,000,000, totaling 28,300,000. The 1949 population estimate was 29,240,000.

Chief Cities.—Seoul (q.v.) (Kyŏngsŏng; Jap., Keijō), the cultural center of Korea and, since 1392, the capital, is located almost midway between the northern and southern extremities, not far from the west coast. It is the largest and most modern city, with a population (1949) of 1,446,049. About 45 miles to the northwest is

KOREA



Farm family of village of Mi A Ri, near Seoul, at largest meal of the day, breakfast. Menu: soup, rice, eggplant, radishes, radish leaves, beans. © Unations



Above: Wash day on Cheju Island. Note odd-shaped mallets used for beating clothes.

Right: Girl baby is announced by traditional sign: charcoal, between pieces of straw.

© Unations, (right) Courtesy American Red Cross, photo by Hazel Kingsbury



KOREA



Top: View of Seoul and the Capital

Center: Throne Room of the Chituk Palace, near Seoul, typical of ancient Korean architecture.

Left: Workmen weaving reeds to waterproof a new house in Chinju.

Caesŏng (Songdo; Jap., Kaijō), the capital of the Koryu dynasty (918-1392 A.D.); it has many beautiful buildings and historic relics and has been the chief producer of Korean ginseng. P'yŏngyang (q.v.) (Jap., Heijō), the largest city in northern Korea and the commercial and industrial metropolis, was the great cultural center of northern Korea and Manchuria under the Koryu kingdom (37 B.C.-668 A.D.). Kyōngju (Jap., Keishū), the capital of the old kingdom of Silla (57 B.C.-935 A.D.), in southeastern Korea, and Puyo, capital of the neighboring kingdom of Paekche (18 B.C.-660 A.D.), in southwestern Korea, are important centers for the study of Oriental art. Archaeologists have excavated many of the sites of these periods, and remains can be seen in museums today.

Physical Features.—A country of rugged mountains and gleaming waters, Korea has a coastline fully 5,400 miles long. This figure does not include the 3,479 islands, lying mainly to the south and west, whose combined coastline is about 6,000 miles. The great north-south mountain range falls away toward the south into innumerable hills and plains. Although some patches are sandy and rocky, the plains and narrow valleys are generally fertile for farming. The chief product in the south is rice, while the north is richest in timber and minerals.

Geology.—Crystalline schists underlie a large part of the mountainous land, which contains rich mineral resources. Near the surface is a complex of granite, gneiss and early Paleozoic and Proterozoic limestones and metamorphics. Clay states, sandstones, and lime stones are found in the north; carboniferous beds, consisting mostly of slates and conglomerates, are evident toward the southeast.

Mountains.—The great mountain chain which forms the backbone of the Korean peninsula passes near the coast. To the west the terrain descends gradually, it eastward the mountains drop abruptly toward the sea of Japan. Many of the peaks of this chain are renowned for their beauty. The most celebrated of all is Diamond Mountain or Kūmgang-san (Jap., Kongō-san), close to the east coast, not far north of the 38th parallel. Its "12,000 peaks" form a cluster 50 miles in circumference. The highest peak, Pirochong (5,374 feet), is considered, by both Chinese and Japanese writers, to offer the best mountain scenery of its kind in the world. Through the centuries legends have grown up about the deep canyons, winding ravines, oddly shaped rocks, and crystal waterfalls of Diamond Mountain. Poems have been inscribed on the rocks, sometimes under water. In spring the mountain slopes are covered with wild azalea, magnolia trees, and lilacs. In autumn, when the foliage turns, the entire mountain cluster is a blaze of color.

Rivers and Lakes.—Two rivers rise on the slopes of Paektu-san (Jap., Hakutō-san), at the northern border—the Tumen, flowing northeast for 324 miles into the Sea of Japan, and the Yalu, flowing southwest 491 miles into Sŏjosŏn-man (Jap., Nishi-chōsen-wan; West Korea Bay). Because of the mountainous character of the land, most of the rivers and streams are not long, but many are navigable. Native junks and small craft can sail up the Yalu for about 420 miles, and from the upper part of the river timber is floated down to Tiju (Jap., Gishū). From the mouth of the Tumen, motorboats can proceed 53 miles. The Nakdong (Jap., Rakutō) is navigable for 214 miles, the Han (Jap., Kan) for 186 miles, and the Kūm (Jap., Kin) for 81 miles. During the summer rainy season the rivers occasionally overflow and cause serious floods.

Korean lakes are few and small, the largest, Kwangpo, having an area of only 13.28 square kilometers (about 3.3 acres). Lakes and rivers alike have romantic associations, and there are frequent allusions to them in Korean literature.

Islands.—The islands off the Korean shores are especially beautiful, so beautiful that it has been said immortals live on them. The largest is Cheju (q.v.) (Quelpart; Jap., Saishū), 710 square miles, located 62 miles south of the mainland. Like Korea proper, it is mountainous, its highest peak, Halla (Jap., Kanra; Auckland), reaching up 6,597 feet. The enormous masses of white rock on the mountain resemble snow from a distance. Of volcanic origin, Halla was last reported active in 1007 A.D. Cheju is famous for its iri-

descent mother-of-pearl, and for its diving girls, said to have been able to beat their male partners in combat. At one time the island served as a convict station, and a number of Korea's finest poets were exiled there for their radical political views. At another time it was used for breeding Mongol horses.

The island of Kangwha, north of Inch'ŏn (Jap., Jin-sen), where three rivers the Han, the Imjin, and the Yesŏng—flow into Sŏjosŏn-man, is famous for its historic associations dating back to the legendary Tangun (2333 B.C.), and to the Koryu (918-1392 A.D.) and Yi (1392-1910 A.D.) dynasties. Many forts and towers were built on the island during the 6th and 7th centuries.

Off the southeast coast lie some 200 small islands, which form a natural protection for the mainland. Bold masses of arid rock rise over 1,000 feet above high tide. Treacherous for navigation, the surrounding waters hide coral beds and abound in giant fish, pearls, and sponges.

Harbors.—Among the few good Korean ports, Pusan (q.v.) (Jap., Fusan), at the southeastern corner of the peninsula, affords excellent, protected anchorage for 3,000-ton steamships. The clear, alkaline waters of Pusan's famous hot springs attract numerous bathers. There is also an historic monastery with famed pagodas, built in the 9th century at the time of Silla. Destroyed in part in 1592 by an invading Japanese army, these landmarks were later repaired by the Koreans.

Wŏnsan (q.v.) (Jap., Genzan), on the east coast at the southern end of Yŏnghŭng-man (Jap., Eikō-wan), has an unusually fine harbor which Westerners have often compared with the Bay of Naples. An anchorage area of nearly four square miles, deep water, and the absence of swift currents make it an ideal landing spot. A beach of white sand on the bay has been developed into a popular summer resort.

Mokp'o (q.v.) (Jap., Moppo), the largest port on the southwest coast, was at one time a naval station. At the entrance to the harbor, on Koha-do, is a monument in honor of Yi Sunsin, the 16th century Korean admiral who defeated the Japanese. In the center of the west coast, 24 miles west of Seoul, is Inch'ŏn (q.v.) (Chemulpo; Jap., Jinsen), which serves as the port for the capital. It lies at the mouth of the Han-gang, where the tide rises at times as high as 33 feet. The mild climate and superb scenery of the surrounding area have led many persons to build villas here. Chinnampo, the largest trading port on the west coast, is situated on the bank of the Taedong-gang (Jap., Daidō-ko). The river can be navigated by 2,000-ton steamships for 40 miles, and by junks for 153 miles.

Climate.—Persons who have lived in Korea claim that it has one of the healthiest and finest climates in the world. The interaction of continental and oceanic influences produces a climate that varies considerably in different parts of the country, but throughout it is very comfortable, save for some weeks of a wet and sticky rainy season. In summer the heat is tempered by sea breezes, and winter skies are always blue and bright, with a crisp, dry atmosphere.

In latitude, Korea corresponds to the United States Atlantic seaboard between Portsmouth, N. H., and Charleston, S. C. Save that average annual temperatures are about 6°F. lower in Korea, the climate has about the same variety. Annual precipitation averages 36 inches, but since 81 to 93 per cent occurs during the seven farming months (April through October), Korea generally receives far more water at this time than the Atlantic seaboard over the same period. In some years the summer rains do not come, and occasionally 14 inches may fall in a single day in one locality. To the Korean farmer, with his often primitive methods, the danger of flood or drought is always present. Korea badly needs flood-control and irrigation works.

In southern Korea, winters, though cold, are short (many sections have eight frost-free months), and double cropping is possible. In central Korea, however, there are only six months without frost, and in the north, five. Winter in the northwest, on the Manchurian frontier, lasts almost five months, with temperatures well below freezing. Farmers in this section burn off the brush from the dry and scanty

soil to plant their crops of oats and potatoes. In the northeastern coastal region summers are warm and winters, though cold, last only three months. This is the principal fishing center, particularly for Alaska pollack. The central western section has a mean January temperature of 17° to 21°F. There are many apple orchards in this area, and cotton and ginseng are raised, as well as double crops of wheat and barley. The southeastern region is a narrow coastal belt cut off from the rest of the peninsula by the T'aebaek-sanmaek. Winters in this section are mild, with a January average slightly below freezing, and two crops a year can be grown.

Natural Resources.—Korea's resources, potentially substantial, are largely untouched. By careful development, they could be used to transform the predominantly agricultural economy of the country into a well-balanced combination of agriculture and industry.

Fisheries.—Approximately 80 different kinds of commercial fish are caught off the shores of Korea. In 1937, a typical prewar year, Korean marine products were valued at 87,290,000 wŏn. (Before World War II the Korean wŏn was equal to 25.625 pence, or about 50 cents in U. S. currency.) Sardines make up 25 per cent of the total catch value. Sardine oil, which is used in making hard oils, fatty acids, glycerine, gunpowder, candles, soap, medicines, and margarine, is the most important end product. There is also a sardine cake, used for fertilizer. In 1938 the yield of fish oil was 116,000 tons, valued at 21,979,000 wŏn, and of sardine cake, 198,000 tons, valued at 28,926,000 wŏn. Other important fish are mackerel, herring, hairtail, shrimp, and Alaska pollack. Seaweeds make up an important part of the Korean fishing industry. One of the most important is laver, a purplish weed harvested off the south coast from December to April. It is washed into bamboo sticks set in the mud in shallow waters, then taken out and dried in the sun. After it has become crisp, it is cut into six-inch sheets and packed into boxes. In all, there are 15 kinds of commercial seaweeds, used as food, starch, and medicine, in the manufacture of cloth, and in hundreds of other commodities. On the east coast whaling is an important industry, furnishing food in years of poor harvests, as well as oil and fertilizer. Korean whalers use modern harpoon guns with explosive heads. Many shellfish are caught off Korean shores, and divers bring up sponges, scallops, abalone, Irish moss, conches, sea slugs, oysters, and clams. The shells furnish mother-of-pearl, which is used in ornamenting lacquer ware. There is also an important inland-water fishing industry; in 1938 the catch was 6,400 tons, valued at 5,900,000 wŏn.

Minerals.—With the exception of petroleum, sulphur, and asphalt, Korea is rich in minerals of 113 kinds, although only some 50 different kinds are exploited. These include iron, coal, gold, tungsten, molybdenum, mica, graphite, manganese, copper, chromium, nickel, lead, cobalt, and vanadium. Before World War II gold was the most important mining product, accounting, in 1934, for 59.3 per cent of the value of the total mineral production (69,170,000 wŏn). Iron followed at 18.5 per cent; then coal, 14.4 per cent; and other minerals, 7.8 per cent. Although over 2,000 mountains are known to contain gold deposits, in 1937 only 145 gold and silver mines were in operation. Gold production in 1940 amounted to 1,000,000 ounces. In 1943 the Japanese administration closed all Korean gold mines and transferred their equipment and manpower to mines producing materials needed in war industry.

In northern and central Korea there are rich coal deposits, including high-quality anthracite. Most of the iron produced in Korea comes from the Musan (Mosan) field in the northeast. In the north there are tremendous waterpower reserves, holding distinct promise for heavy industry. Potential waterpower has been estimated at 5 million kilowatts; as of 1948, Korean power plants produced over 2 million kilowatts.

Forests.—Korean forests contain many varieties of trees belonging to the temperate zone. The mountain slopes are covered with magnificent pine, spruce, and fir (60 per cent of the standing trees are coniferous), as well as many species of maple and oak, and juniper, larch, mountain ash, and birch. There are also many kinds of fruit and nut trees, including walnut, chestnut, hazelnut, plum, Korean pear, peach, and cherry. Willows grow everywhere, the hornbeam and the hawthorn are common, and poplar and acacia afford natural protection against erosion. In 1938 forest products were valued at 156,749,000 wŏn.

Wildlife.—Hunters find a paradise all their own in Korea. The tiger, protagonist of many stories and legends, is still there, and the large, beautifully marked skins command high prices. There are also leopards, wolves, bears, wild boars, and deer. The tigers and leopards rarely attack human beings, but they prey on other game if not hunted. There are wildfowl of many species throughout the country. In spring and autumn, swans, ducks, and geese line up in the sky and clamor around every stream and inlet.

The hunting season begins at the end of September and lasts until April 1. White-necked cranes, turkeys, storks, herons, and a certain kind of swan are protected birds, but gray cranes, water rails, eagles, hawks, quail, pheasants, snipe, and pigeons may all be hunted. In northern Korea there are many foxes, badgers, wildcats, otter, sables, rabbits, and squirrels.

Agriculture.—Approximately two thirds of all Koreans are members of farm households, and many more depend indirectly on agriculture for their livelihood. Even the townspeople have small gardens, chickens, and fishponds. Rice is the principal crop; of the estimated 11,260,000 acres of cultivated land, approximately 27 per cent is planted to rice. Before World War II a large proportion of the total rice crop (106,775,869 bushels in 1940) was shipped to Japan, and the per capita consumption of rice in Korea was only one third as great as in Japan. Millet and barley have been the chief substitutes for rice; in 1938 Korea produced 25,977,578 bushels of millet, and in 1940, 37,549,620 bushels of barley. Wheat, oats, and sweet potatoes are raised in quantity. Soybeans, another important crop, amounted to 19,184,462 bushels in 1939. Cotton and tobacco are also raised; in 1938 the land planted to cotton covered 577,000 acres and produced 90,000,000 pounds of ginned cotton. The Korean climate is well suited to the raising of silkworms, and mulberry trees are plentiful. In 1944 approximately 922,000 farm families, or almost one third of the agricultural population, augmented their incomes by engaging in sericulture. In 1936, a typical prewar year, the production of cocoons amounted to 50,000,000 pounds.

Native Korean cattle supply good meat and fine-grained hides. Since most of the crop land devoted to raising grains for human consumption, however, there are only about 1,705,000 cat (1939), and only one farmer in four uses a bul or an ox for plowing. Native Korean horses are small but strong, and there is also a mixed breed which is very popular for racing. The yield of wool from Korean sheep has been improved by crossbreeding. There are about 1,400,000 pigs (1939) and approximately 8,000,000 head of poultry.

Land distribution has long been a serious problem in Korea. In 1944 it was estimated that large landowners, Japanese and Koreans, made 2.7 per cent of the farming households and own 63.9 per cent of the cultivated land. Independent farmers, working their own land, made up 16 per cent of the farming population and own 25.7 per cent of the cultivated land. Another 20 per cent were part owners and part tenants; they owned about 10.4 per cent of the land. The remainder, or about 57.4 per cent of the farm population, consisted of landless tenants or laborers. The average holding was less than four acres, and some plots covered only about the quarters of an acre. Tenants paid high rent, from 40 to 60 per cent of the crop, and were usually in debt. Tenancy increased markedly under Japanese administration, and large areas were acquired by Japanese owners.

Following World War II, the Japanese holdings were taken over, in northern Korea by

age people's committees, and in southern Korea by the New Korea Company, which acquired the arm lands once owned by Japan's Oriental Development Company. In the northern zone drastic and reforms were enacted, and both Japanese and large Korean holdings were divided among tenants and laborers. The new owners, however, did not receive a clear title to their holdings; if they died, abandoned their farms, or were accused of "damaging the interests of the Korean people" the land would revert to the people's committee of the village and be redistributed. In the southern zone tenancy laws were revised, rents being limited to one third of the crop yield and made payable only through government-controlled collection centers. In March 1948, the New Korea Company was dissolved and some 630,000 acres were assigned to the newly created National Land Administration to be sold on easy terms. In 1951 South Korea's crop yield was about one third of its normal size.

Trade and Industry.—Before World War II, Korea ranked high among the trade areas of the Far East, with total exports of over \$260,000,000 in 1939, and total imports of \$360,000,000. The principal exports to the United States were sardine meal, electric bulbs, graphite, and canned fish. Imports from the United States consisted largely of machinery, petroleum products, cotton, and tobacco. In 1936 over 16 million tons of shipping entered Korean ports, or three times the amount entering the ports of Indochina, a country with almost the same population as Korea.

Although Korea is predominantly agricultural, in 1938 there were 6,233 factories employing 1,641 persons and manufacturing goods valued 959,308,000 wŏn. By 1942 manufactured products were valued at 2,700,000,000 wŏn. Of these, approximately 31 per cent consisted of chemicals; 15 per cent, food and beverages; 14 per cent, textiles; and 8 per cent, metals.

According to the Ministry of Commerce and Industry in 1951, South Korea's total imports amounted to \$26,106,498, and exports, \$15,568,903. In January 1952 the number of south Korean factories in operation numbered 2,525.

Transportation and Communications.—All important Korean ports have railway connections. Freight can be brought by rail to Pusan (Fusan), Ulsan, Yösu (Jap., Reisui); Mokp'o (Moppo), Gunsan (Jap., Gunzan), Sinŭiju (Jap., Shin-ŭishū), Yongamp'o (Jap., Ryūgampo), Sŏngjin (Jap., Jōshin), Wŏnsan (Genaan), Ch'ŏngjin (Jap., Seishin), and Najin (Jap., Rashin) and Unggi (Jap., Yūki) in the far northeast. In 1940, Korea had 4,153 miles of railway and 17,000 miles of highway. The main railway lines are standard gauge (4 feet 8½ inches). As of 1938, there were 5,600 miles of telegraph lines and 7,100 miles of telephone lines. There are 1,093 post offices (1940).

People.—Houses.—The traditional house of the well-to-do Korean is a high, one-story building with a tiled roof and a double gateway. It stands on high ground, facing south, surrounded by walls 10 feet high. The main entrance is only for distinguished guests; smaller gates on either side are used for ordinary occasions. Between the house and its gates is an inner courtyard paved with bricks or stone. In the center of the main house is a large room used as a parlor, with smaller rooms on both sides. There are small houses for servants and retainers within the enclosure. The main house is given

over entirely to the men of the family. Pathways connect it with the inner rooms where the women live. In the past, woman's world was quite separate from man's, but segregation is gradually losing favor with the younger generation. Humbler houses have smaller windows and lower roofs, made not of tile but of straw, somewhat like the thatched cottages of England. They usually have four or five rooms, called *kahn*, in addition to inner rooms. Many Korean scholars and poets live in houses like these, for the scholar of Korea has rarely been a wealthy man. Gardens are well tended, with flowers blooming from the earliest plum blossoms in the snow to the latest chrysanthemums braving the frost.

Korean houses are heated by a system called *ondol* which has been in use for 1,500 years, and which may have influenced the modern heating methods of the West. The floor (*gudŭl*) is paved with flat bricks, with flues under the top layer. Somewhat below the floor level a tunnel is dug to carry heat from the kitchen to the main chimney. Floors are usually covered with thick, oiled Korean paper, and sometimes with matting or a woven oak or bamboo carpet.

Koreans do not use chairs or beds, but sit and sleep on the floor. At night, mattresses with blankets or quilts are brought out. In the absence of beds and chairs, even a small room seems large, and furnishings are very simple. Shoes are never worn indoors, or even on the verandas which lie to one side of the house overlooking the courtyard. In all homes, the posts, doors, and sometimes even much of the walls are covered with excellent calligraphy. Some householders use quilted silk to cover their walls; others hang ink paintings, usually depicting plums, orchids, chrysanthemums, bamboos, tigers, or dragons.

Many families maintain a separate guest house, well decorated with paintings and calligraphy and books in the inner wall. Bookcases are usually built-in closets with sliding doors. In addition, there is always an ancestor tablet with two doors, where services are performed on special occasions. The most prominent pieces of furniture are the heavy, brassbound clothes chests, usually one for each member of the household. Often they are ornate, brides' chests being bound with silver and beautifully inlaid with mother-of-pearl. There are also reading desks low enough to be used by persons sitting on the floor. In the kitchen, or on the veranda, are cupboards stocked with fine porcelain and brass dishes. The good Korean housewife polishes her brass until it shines with the shimmer of fine gold. The porcelain, which is handed down in the family, includes scores of different types—rice bowls, covered soup bowls, cake platters, meat dishes of various kinds, wine cups, bowls for rice tea.

Dress.—Formal dress, called *chang-ot*, is worn by both men and women on ceremonial occasions. It has long sleeves where fans, handkerchiefs, writing materials, and the like are kept. This garment is tied at the waist by a brilliantly decorated cord girdle ending in two tassels which almost sweep the ground. Over it is worn a sleeveless, collared tunic cut at the neck so as to join in the form of an oval.

One of the six departments of the old Korean monarchy was the Board of Rites, which formulated and administered social codes of every kind, including what to wear, and how, when, and

where to wear it. In old Korea, one could tell by his dress to which class, trade, or profession a person belonged. Throughout Korean history each new dynasty set its own fashion. Although some Koreans have adopted Western dress, the majority still wear at home the characteristic white or faint sky blue dress of the modern Yi dynasty. (To keep these white clothes spotless, the Korean housewife must spend a great deal of time laundering—300 hours a year in a well-dressed household.) Children, however, wear brilliant colors, often in combination—green, red, yellow, crimson, blue, purple, cerise, or lavender—and a child's jacket often resembles a rainbow.

Traditional Korean dress has no buttons or button-holes; ribbons are used for belt and fastenings. There are no pockets; the *chumäni*, a small bag attached to the belt by a cord, takes their place. Although dress varies widely, all Korean costumes are dignified and majestic and differ in quality and fabric rather than in fashion. All men wear jackets, called *chugori* in winter and *chuksam* in summer, and voluminous trousers called *baji*. Outdoors a flowing tunic (*turumaki*), sometimes of silk or satin, is worn over jacket and trousers, reaching somewhere between the knees and the ankles. In winter, clothes are lined and interlined with silk or cotton padding, all of which must be ripped out each time the garment is laundered. For warmth, wristlets (*tosu*) six inches long are worn; sometimes *tosu* made of reeds are worn in summer. Travelers wear anklets called *haenggön*.

Women wear skirts in addition to the Korean jacket and trousers, changing styles being reflected in the length of the skirt or the jacket, and in the width of the sleeveband. The skirts of elderly women touch the ground, but schoolgirls and young women wear shorter skirts. One of the most important parts of feminine dress is the *höritti*, an embroidered or hand-woven waistband worn between the jacket and the skirt. A bride's *höritti* is usually presented to her as a wedding gift by her uncle or aunt.

On ceremonial occasions women wear ornamental hats resembling crowns. At other times they use scarves or *huyang*, a sort of winter cap longer in back than in front. Men's hats (*kat*), which are made of silk, split bamboo, or horsehair, are always black except in the case of young bridegrooms, who wear hats of yellow straw, or of persons in mourning, who wear white. Bereaved sons, however, wear special yellowish bamboo hats large enough to prevent them from greeting friends in the street: the mourner is not supposed to smile in passing. Men wear indoor hats called *kwon*, pyramidal in shape and woven with geometric designs. Most modern Korean men cut their hair, although there are still a few who have kept the traditional masculine topknot, and one sometimes sees boys with braided hair. Although Korean women usually wear their hair long in a knot at the nape of the neck, an increasing number of young girls bob their hair.

Shoes (*shin*) may be made of leather, grass cloth (*sam*), silk felt, twine, or straw. Wooden clogs are worn in bad weather, and convenient elastic straw sandals, called *jip-shin*, are used by hikers and working people.

Food.—Koreans eat rice, millet, or potatoes with every meal, and cooking rice so that it is neither too wet nor too dry is considered an art. There are many side dishes (*panch'an*), which are served with the rice on small, individual tables. Since meat is not very plentiful, much fish is eaten. The Koreans also eat every imaginable nonpoisonous green, wild or cultivated, including lettuce, spinach, tender shoots of all kinds, sow thistle, celery, dandelions, chicory, sweet basil, ginger, purslane, shepherd's-purse, clover, ailanthus, garlic, leeks, scallions, onions, chives, broccoli, kale, cauliflower, cress, and colewort. The hardy, delicately flavored mustard green is often used for making soup.

The most popular Korean dish, *kimch'i*, is usually made from *paekch'ae*, a tender white cabbage. The finished product is fermented in salt, and combined with shrimp, dried fish, Korean pears, chicken slices, pepper, nuts, and other delicacies. Another type of *kimch'i* is

made by pickling the Korean radish, or *mu*, which is large and white and has a mild flavor. There are several different kinds of peas and beans, including the useful soybean. Soy sauce is the staple Korean condiment, and the nutritious bean cake, a custardlike curd, is put to daily use. The young leaves, blossoms, and flower stems of the *hopak* (squash) are used in making soup. Pepper, nuts, mushrooms, and fruits are also popular. Wheat flour is used chiefly for a famous national dish called *kuksu*, a sort of vermicelli moistened with soup, to which meat, vegetables, *kimch'i*, pears, date and condiments are added. In country districts it is pared for special occasions, and in cities is a popular luncheon dish.

Language.—Until the 15th century, Koreans wrote exclusively in Chinese characters. Then, in 1443, a number of outstanding scholars (Ch'ong Inchi, Söng Sammun, and Shin Shukchu), under the direction of King Sejong, invented a completely phonetic alphabet called *önmun*, which was put to immediate use. It is so simple that a foreigner can master it in a day.

The Korean alphabet consists of 24 letters, generally capable of being sounded as either an initial or a final letter. In this respect, it differs from the Japanese syllabary and is much better suited than Japanese to the transliteration of foreign words. For instance, "football" can be written phonetically in Korean, whereas the closest approximation in Japanese is *futoboru*. Moreover, unlike Japanese and Chinese, Korean contains both an *l* and an *r* sound. The Korean language is soft, with a natural lilt. There are no deep nasal tones, little or no accent except to emphasize some part of the sentence, and no difficult slurring.

Traditionally, Korean has been written perpendicularly like Chinese and Japanese, but a movement to write horizontally received added impetus after World War II. (In 1946, 10,000 Korean high school textbooks were printed in this system in Seoul.) The principal advantage of horizontal writing is in the use of the Korean-alphabet typewriter; added precision can thus be gained in spacing words, sentences, and paragraphs, and in inserting punctuation marks.

Literature.—Although, in the many centuries of Korea's literary history, numerous works were published on philosophy, astronomy, geography, medicine, law, military science, mathematics, and agriculture, prior to the 20th century the greater part of Korean writing consisted of belles-lettres. The traditional Korean scholar was a poet, and to be a great poet and scholar was considered nobler and more desirable than to become a wealthy and powerful man: the literary man, not the rich man, was the hero of Korean youth.

The coming of Buddhism from India in the 4th century A.D. did much to diffuse culture among all classes in Korea. During the Koryu dynasty there was a good deal of reaction against the earlier Confucian education. Under Buddhist influence the literature of this period became more imaginative, and Buddhist monasteries, set in beautiful mountain retreats, developed into centers of poetry and thought. Some of the greatest poets of the Koryu period were monks, but since they did not compete in the civil service examinations, leadership gradually passed to the literary men who did.

Even the ancient poetry written in Chinese characters shows its peculiarly Korean quality, and has a charm all its own. *The Korean Anthology of Selected Literature*, or *Tongmunsin*, in 130 books, which 23 scholars commissioned by the government compiled in 1478, is a good example of that early Korean style, more compressed

and subdued than the Chinese poetry of the same period (early 10th century to mid-15th century).

The outstanding characteristics of Korean poetry written in the Korean tongue are simplicity, kinship with nature, and the symbolic use of nature to express philosophical thought. An anthology of such poetry, entitled *Sichoyuchip*, was compiled and published in 1927 by the great Korean scholar Ch'oe Namsön. The poems of an Yongwoon have been translated into English, but the works of few other modern Korean novelists and poets have appeared in translation.

Music.—Westerners find classical Korean music strange at first, for it was influenced by Chinese music and is written in a scale very different from the modern Western scale. The scale has five tones: *gung* (C), *sang* (D), *gak* (E), *chi* (G), and *um* (A). Korean singing is Oriental singing, and Orientals are not so much interested in creating a carefully modulated tone as a precise mathematical pitch as Westerners are, nor are they interested in following a carefully planned rhythmic pattern. Koreans have their own manner of singing, which is largely spontaneous, even though the text and basic elements of the rhythm have been set down as recorded "scores" for generations. Songs are wanted to the classical text with only the main fact in mind. This effect, reaching to the hearts of Korean audiences, calls forth emotions of recognition and exaltation. Westerners have found it difficult to appreciate Korean music because they approach it from their own background, rather than that of the centuries-old Korean tradition.

According to traditional accounts, Kija, a Chinese lord who came to northern Korea in 1122 B.C., introduced Chinese music and Chinese musical instruments. At one time, there were more than 1,900 books written on the use of these ancient instruments, but only 52 are still extant. Thirteen of them deal with music of the Chou dynasty (c. 1122–256 B.C.), 20 with music of the Wei and T'ang dynasties (590–906 A.D.), and 19 with Korean music proper (the Three Kingdoms and Koryu). In the 1890's the imperial palace supported an orchestra of over 770 musicians performing 66 different instruments. Some of these instruments have already passed into oblivion, and, of the 54 remaining types, many can now be played by only one or two musicians throughout the country.

Classical Korean music is played only by professional musicians who spend a lifetime in its study, and a highly cultivated ear is needed to appreciate it. It is always accompanied by *shijo*, classical songs written by the great Korean poets and interpreted by professional singing girls. Each of the instruments is supposed to interpret a different emotion. The very popular *ko-hunko*, for example, expresses the sorrows of love. This is a long, narrow instrument, somewhat like a bass viol, which is played on a table or on the floor by plucking the strings with the right hand and fingering with the left. The *kayakum* has 12 strings, representing the 2 months of the year. The *haekum*, which looks somewhat like a large croquet mallet, has a short head and hollow handle. Its two strings emit a sharp, melodious clang of violin quality, which the player supplements by whistle he carries in his mouth. There is also an hourglass drum called the *changku*. In addition, there are tone chimes, metal bells and trumpets, guitars, flutes, oboes, and instruments of earthenware, leather, and wood. (One ancient type of music, popular centuries ago in Korea, was produced by tying musical bells to the tails of pigeons. The birds were trained to fly over banquet tables; by jerking their tails at intervals, one could play a tune.)

Korea also has many folk songs, such as those sung by farmers in the fields. These do not require trained singers or listeners and are more easily adapted to Western music than are the classical songs. In summer every village has its own concerts, performed by local musicians. Many Koreans are studying Western music. A few of them, however, recognize the desirability of preserving the distinctive merits of ancient Korean music, even though Western technique may eventually be incorporated into it.

Drama.—Like the Chinese drama, Korean drama probably originated in religious ceremonies, such as the elaborate rituals of ancestor worship. It is a display of two arts, dancing and singing, without which no Korean actor could perform. In the period of the Three Kingdoms (1st century B.C. to 7th century A.D.) actors often wore masks, the heroic image of Whangchang being particularly popular. (According to *Mun-hönpigo*, the 40-volume Korean encyclopedia compiled in 1770 by Hong Ponghan, Whangchang was a boy general of Silla who fought for his king against Paekche.) Dances in which the performers were disguised as lions were also popular. Another old dance, the dance of the storks, is still performed in summer at village festivals. In this dance two performers dressed as storks revolve about a large pink lotus blossom. At the end of the dance they peck the flower open and a girl jumps out. All the early dramas were danced, the actors making stylized gestures with swords, feathers, flutes, and other properties, and they were classified according to the music accompanying them. Toward the close of the Koryu dynasty a famous play called *Sandaekük*, was written. This was a satire ridiculing the Confucian aristocrats and the Buddhist monks. It attacked the class system, which made it difficult for even a person of exceptional ability to rise from one station to another. This play contains some of the most beautiful Korean songs. From the 10th century on puppet plays also became very popular.

The dramatization of the Korean novel *Ch'unhyangchön* is one of the most popular Korean plays. There are some 30 different versions of both the novel and the play. One of the best known was written by Shin Zachyo (also known as Shinowichang), who was born in 1812. For 30 years he wrote dramatic criticism and songs, including a satire on the Westerners then appearing in Korea. Like the Chinese drama, Korean plays are highly realistic and depend very little on supernatural elements. The dramatist's purpose is to depict life in its pathos and comedy, and to exalt virtue, which to an Oriental means self-sacrifice. There are a number of stock characters, easily recognizable by their traditional make-up, including the comic actor, or *kwangdae*, whose specialty is tightrope walking. Korean drama is very different from Western drama. Although it seldom transcends the actual, its aim is to interpret life, not to imitate it. To Korean audiences this symbolic representation is more effective than photographic realism. Nonetheless, since 1909 the technique of Western drama has become increasingly popular with younger Koreans.

Art.—The art of China greatly influenced the art of Korea, which in its turn had a marked effect on the art of Japan. In general, Korean art is characterized by a classic simplicity and an easy dignity. As in China, painting and calligraphy are closely related. The same tools and materials—ink, brush pen, and silk or paper—are used both for writing and for drawing. Painting and poetry usually go hand in hand, the artist alternately drawing and writing. The Western student often is not sufficiently conscious of the fusion of the two arts, which in the Far East complement each other.

Archaeologists excavating old tombs at Nak-nang (Lolang), near P'yöngyang, have unearthed mural paintings from the 3rd or 4th century A.D.

which antedate both Chinese and Japanese murals. The oldest paintings of Japan, dated 595, are of Korean origin. The floral designs decorating the walls at Naknang show a remarkable sincerity and much feeling for the free line. Yet the pattern is formal, and Confucian influence is evident throughout.

Buddhism was introduced to Korea in 372 A.D., and thereafter the peninsula attained a high degree of prosperity and culture. The art of Silla, in the southeast, shows Greco-Bactrian influences, which reached Korea through Khotan (Ho-tien), in what is now the Chinese province of Sinkiang (Chinese Turkestan). Korean frescoes and sculpture of this period are still extant in certain temples. Some remarkably fine things, for example, may be seen in the Hōryūji, near Nara, Japan.

Kyōngju, the capital of Silla, which was partially ruined during the 16th century Japanese invasion, is rich in relics. Still standing are the oldest astronomical observatory in the world, built in 647 A.D., and an ancient icehouse, once used to chill the food and drink of the royal household. In the 7th century, Kyōngju was a center of culture and commerce for the Far East. Chinese, Japanese, Indians, Tibetans, and Persians flocked to the city to study, and Arabs came in caravans to trade. There followed what might be called an Elizabethan period of assimilation and national integration, with little or no foreign inspiration. Then, as Korean art became purely native, Kaesōng (Songdo), the capital of Koryu, became the cultural center of the peninsula.

At Kaesōng was developed the celebrated Korean celadon, a delicately cracked porcelain in a quiet grayish tone. For classic perfection of form and diversity of expression, the celadon of the Koryu period is unsurpassed. Today, a thousand years later, we can see these beautifully shaped vessels, decorated with ribbons, flowers, and leaves delicately marked in black and white, in the Metropolitan Museum of Art in New York and the Victoria and Albert Museum in London. The Koryu dynasty inherited the technique of past masters, but thereafter artists were content to refine forms and to rarefy colors. The later pottery is a beautiful greenish gray enamel decorated with flowers and white leaves—solid, broad shapes suggesting the joy of physical well-being.

One of the royal palaces of the Yi dynasty, the Kyōngpok-kung, is now Seoul Museum. Here may be seen some of the finest specimens of Korean art remaining in Korea. The best Korean art is simple and vital, vigorous rather than delicately ornamented, and thoughtful rather than interpretative. Typically Oriental, such art is inspired by a feeling of kinship with nature, a feeling which underlies all Korean culture and is seen even in the construction of houses, which are built with due regard for the spirits of the earth, air, fire, and water. It is a deep-rooted culture, archaic rather than primitive.

Children and Festivals.—Adults in Korea are very fond of children, and children of their elders. The saying, "Children should be seen but not heard," applies only while the elders themselves are talking, or the grandfather's three-foot pipe is being lighted, ultimate symbol of refinement and leisure. Girls around a swing and boys wrestling or pitching pennies make a great deal of noise even in the presence of their elders.

Korean children love fairy tales and all the ancient folklore of their country—stories of gob-

lins, spooks, elves, fairies, and animals. Mysterious powers are attributed to the trees and flowers on every mountainside and the rocks and caves on every riverbank. The stories tell of fearful tigers, cunning foxes, prankish rabbits, honest turtles, magic gourds, cooperative ants, enchanted wine jugs, haunted houses, and the cruel stepmother of a Korean Cinderella.

The chief Korean holiday is New Year's which falls at the same time as the Chinese New Year, between January 21 and February 19. During the festivities, which last two weeks, presents are exchanged, new clothes are donned, and cakes and candies are provided by every household to children making their rounds. At the end of the fifteenth day, known as the Feast of Lanterns, dice are thrown under the full moon to foretell the luck of the coming year.

Among other important festivals is Buddha's birthday, celebrated on the eighth day of the fourth lunar month with colored lanterns, fire works, and large, floating paper fish. The fifth day of the fifth month is sacred to the memory of a great poet. Then there is a special picnic day when *ijime* (griddle cakes made of azalea petals) are eaten. On the seventh day of the seventh month, Koreans celebrate the love of two stars, Altair and Vega. The story goes that they were once a herdsboy and a weaving girl who neglected their work that they were separated as a punishment, to meet only once a year. Prize wrestling matches are often held on this day. The fifteenth day of the eighth month is the mid autumn harvest feast. After the defeat of Japan in 1945 the Koreans adopted several new national holidays—Memorial Day (March 1), commemorating the Revolution of 1919; Liberation Day (August 15); and October 9, the anniversary of King Sejong's presentation of the Korean alphabet to the people in 1443.

Sports.—Until the beginning of the 20th century stone fighting was a very popular sport in Korean villages. Once a year a village would challenge one of its neighbors to meet in combat on some large field. The fighters of each team would be armed with stones and clubs, and might be protected by heavily padded helmets. Because this sport was so dangerous it was eventually forbidden by law. Swinging, wrestling, and kite fighting have long been popular. A form of basketball in which stones are thrown into the mouth of a wooden effigy has been enjoyed for centuries, as have field hockey, skating, skiing, sledding, weight lifting, bowling, and archery. Koreans have long been expert horsemen, and often hunt on horseback with bows and arrows.

Western sports were introduced in 1903, and since then baseball, basketball, soccer, and tennis have become very popular. Son Kichung, one of the nine Koreans who participated in the 11th Olympic games, held in Berlin in 1936, won the marathon, breaking the Olympic record. Korea also has two champion weight lifters; one of them, Nam Sooil, broke a world record in the 132¼-pound class. Yun Boksu, a Korean runner, set a new record for the course in winning the 51st annual Boston Marathon in 1947.

Education.—Kūl-pang, or literature room, was the name of the traditional Korean school. Its curriculum consisted mainly of reading and writing the classics, the emphasis being placed on imitative essays and poetry, and its aim was to train poet-scholars. In old Korea the poet-scholar belonged to the highest class of society, follow-

the gentleman farmer, the artisan, and, last of all, the merchant and other commoners. Once a scholar had passed his examinations, his place in society was secure, and he might become a cabinet member, a governor, or a king. This system, though exclusive, had certain democratic elements. All were allowed to take the examinations, nor was there any age limit, young and old mingling in the examination room. If anyone failed, he might try again, and there was an uncompromising standard of merit. The high honor in which the scholar was held acted as a stimulus to education.

The system emphasized literary expression by rote memory, and the moral ideals of Confucianism. There was no place for the development of a critical attitude or of scientific research; only one course was open—the pursuit of the traditional literary life. Despite the introduction of new educational methods, as late as 1937 there still remained 5,944 of these ancient *hul-pang*, accommodating 169,999 students.

After Japan annexed Korea in 1910, a new system of education was introduced. Unfortunately, its object was to Japanize the Koreans, and all instruction was conducted in Japanese. The system had, on the surface, modern Japanese features. There were six-year elementary schools and five-year middle schools, from which the student might go to a high school for two or three years, thence to the university, or to a specialized college for three or four years and then to the university. Actual school attendance figures, however, present a more realistic picture of the system. In 1939 there were 3,372 elementary schools in Korea, including mission, private, and short-term schools, with a total enrollment, out of a population of approximately 23 million Koreans, of 1,218,377 Korean pupils, and out of the 800,000 Japanese in Korea, 93,060 Japanese pupils. In the same year there were 19,343 Korean students and 8,524 Japanese students in the 53 middle schools. In effect, five Korean children were competing for each seat in the secondary schools. On May 31, 1939, 1,355,356 Korean children aged 6 to 12, or only 40 per cent of the total, were attending school. For the year 1935, a total of 1,406,331 won was allotted to Korean schools, while 25,841,111 won, or over 18 times as much, was spent on prisons.

When the United States and Russian forces entered Korea in 1945, they found, out of 4,892,18 children aged 6 to 12, only 1,721,873 attending school. The country needed a new system of education to replace the Japanese-dominated system, as well as trained new teachers and additional buildings and equipment. Up to 1948 there were only 16 normal schools in south Korea accommodating about 8,000 students; such schools could supply only 2,000 teachers a year. Although compulsory education was introduced after the liberation, the lack of schools and teachers prevented its immediate extension to all grades.

Religion.—According to old Chinese and Korean accounts, ancestor worship and other practices associated with Confucianism were known in Korea centuries before the time of Confucius (551–478 B.C.). Later, Koreans received the Chinese classics with enthusiasm, and by the 1st century B.C., as excavations at Naknang in northern Korea prove, Confucianism had become deeply rooted in the peninsula. It has remained influential to the present day. The marriage ceremony is nearly always Confucian.

Marriages in Korea must be contracted outside the clan, between people of different names. Few Koreans remain single. Betrothals are arranged through matchmakers, who are known for their insight into the character and position of the families concerned. Horoscopes (*sachu*) are consulted in selecting the marriage partner and the day for the ceremony. The old-fashioned Korean marriage is long and ceremonious. The bride's family must assemble the dowry and trousseau, the groom's family presents money and silk to the bride, and relatives and friends bring gifts.

Korean burial rites and mourning customs are also Confucian. The traditional three-year mourning period on the death of a parent originated in the practice of ancestor worship, and the memory of departed elders is perpetuated in the tablets inserted in the walls of each house. Funerals are solemn and expensive. Relatives and friends come to help and offer presents, including poems (*mansa*) eulogizing the dead. Food and wine are offered to his spirit. Among the finest buildings in Korea are the Confucian temples. The one within the northern gate of Seoul, for example, is larger and more handsome than the famous Confucian temple in Peiping.

Buddhism was introduced in the 4th century A.D., and during the Koryu period there was bitter rivalry between the two faiths. For a time Buddhism was predominant, and in the 11th century laws were passed providing that one of four sons in a family, then one of three, must become a monk. In the following century, however, Buddhism began to lose ground, and, with the accession of the Yi dynasty in the 14th century, the advocates of Confucianism won out. At present there are in Korea 31 principal Buddhist monasteries and 1,384 temples. Monks and nuns number about 8,000, and professed adherents approximately 132,000.

Koreans are Taoists at heart, and Korean literature contains many Taoist concepts. Although Taoism as a separate religion with its own monasteries has never existed in Korea, Sinkyo (Teaching of God), which incorporates many Taoist elements, is found in all parts of the peninsula. In 1864 the great scholar Ch'oe Jewu (1824–1864) founded a new, humanistic religion, called Ch'ondo-kyo (Teaching of the Heavenly Way), devoted to preserving Oriental traditions. It incorporates many of the concepts of the three great religions of the East—Confucianism, Taoism, and Buddhism. Ch'ondo-kyo is also known as Tonghak (Eastern learning). Its founder was executed for heresy. Government persecution of his successor, Ch'oe Shihung (1827–1899), was partly responsible for the celebrated Tonghak Rebellion in 1894. Although Ch'oe Shihung was hanged in 1899, Son Pyunghi (1861–1922) carried on his work. (Son Pyunghi, who led the Tonghak Rebellion, also headed the 33 patriots who signed the Korean Declaration of Independence in 1919. He died in 1922, as a result of torture, in a Japanese prison.) Despite Japanese persecution, the number of adherents of Ch'ondo-kyo increased. At present they are very active in politics and education, and support a number of schools and a college; they have sent many students to universities in both Europe and the United States.

Christianity was introduced to Korea in 1777, when two Korean scholars were converted to Roman Catholicism. Missions were established and a number of converts were made, but the new

faith encountered official opposition, and many Christians were persecuted for their beliefs. Protestant missions began their work in 1884. There are today approximately 3,000 Christian churches and meeting places in Korea, and about 500,000 Christians.

History.—Legend, Prehistory, and Early Kingdoms.—Korea has been inhabited since very early times, and over a period of thousands of years a number of peoples intermingled to produce the Koreans of historic times. In spite of this admixture, however, Korea has long been homogeneous and nationally conscious, with a common tongue and culture throughout the peninsula.

Korean legends tell us that the earliest inhabitants were food-gathering tribes, living in caves and dressing in a fabric of woven grass, who traced descent in a matrilineal line. Then, according to the story, in 2333 B.C. one Tangun (Divine Man) descended from the Taebaek-sanmaek to become the first ruler of Chosŏn (Land of the Morning Calm). He is said to have established his capital at P'yŏngyang, where he taught the duties of ruler and subject, the marriage ceremony, agriculture, cooking, and the use of lumber in building construction. Korean literature and art contain many references to Tangun. Temples have been built in his honor, among them the celebrated shrine on Mari-san in the island of Kangwha.

Korean and Chinese accounts attribute the introduction of Chinese culture to Kija (in Chinese, Chi-tsu), elder brother of the last Shang ruler, who is said to have migrated to Korea in 1122 B.C. (modern scholars, however, date the end of the Shang dynasty and the beginning of the Chou period at about 1027 B.C.), bringing with him the literature, art, music, ceremonies, and medical knowledge of China. He established a government at P'yŏngyang, which he planted with willow trees, and set up a tax system by which one ninth of all agricultural produce went to the government.

For centuries Chinese influence did not extend farther south than the Han River. Southern Korea was loosely organized into three groups of states (Mahan, Chinhan, and Pyŏnhan) known as Samhan, or the three Hans. In the 3d century B.C., Chinhan received a number of immigrants fleeing from forced labor on the Great Wall of China, and in 193 B.C., when his throne was seized by a Chinese fugitive named Wiman, the king of the P'yŏngyang state fled southward and gained control of Mahan. Meanwhile, Wiman set up a dynasty in northern Korea which flourished until 108 B.C. In that year, Wu-ti, Han emperor of China, conquered northern Korea, which he divided into four provinces. It is the capital of one of these provinces, Nakrang (Lolang), just across the Taedong-gang from P'yŏngyang, which has yielded such rich treasures to archaeologists. Here have been unearthed the ruins of an ancient fortress, many tombs, lacquer and porcelain, swords and other weapons, coins and ornaments, tiles and pottery.

The Three Kingdoms.—Since southern Korea remained divided into warring states, the northerners were continually pushing southward. In 57 B.C., therefore, six chiefs of Chinhan, in the southeast, met in a great council and agreed to unite into one kingdom. It was called Silla and was to last until 935 A.D. The northerners, led by King Chumong, also established a strong king-

dom, called Koguryu (37 B.C.–668 A.D.), whose territory extended from the present city of Vladivostok to Port Arthur, and from south of Kangwŏn-do to north of Changchun, in Manchuria. A little later a third state, Paekche (18 B.C.–660 A.D.), was established in the southwest. Silla, Koguryu, and Paekche are known in history as the Three Kingdoms. Both Koguryu and Paekche were warlike states, constantly attempting to conquer their neighbors and extend their territory. Silla, on the other hand, concentrated its energies on peaceful pursuits, maintaining friendly relations with China and attracting settlers from other parts of Korea. Its rulers encouraged agriculture and sericulture, aided widows and orphans, and gave prizes to skilled weavers. Art and literature flourished, and Kyŏngju, the capital, became a great international center. Silla assimilated the art of China and Bactria and then created a style of its own, good examples of which are now displayed in the monasteries and museums of Korea, as well as in the Hōryūji, near Nara, Japan. From Silla and the other two kingdoms, Japan received her script, art, literature, and religion. In the 7th century, with the assistance of China, Silla absorbed Paekche (660) and Koguryu (668), and for nearly 300 years thereafter ruled the entire peninsula, finally welding it into a homogeneous nation with a common language, law, and civilization.

Koryu.—In 918, Wanggŏn, an army officer, led a rebellion and established a new dynasty called Koryu (it is to this dynasty that Korea owes the name by which it was introduced to the West); he overthrew Silla in 935. In 1011 the capital of the new kingdom was established at Kaesŏng (Songdo), which became very prosperous. Chinese influence remained strong, and in 957 a civil service examination system (*kwagu*) much like that of China was adopted. For over 900 years this system remained the principal influence on Korean culture, encouraging literature and scholarship. A notable advance was the development of printing with movable type, antedating Johannes Gutenberg (q.v.) by 50 to 100 years. Buddhism was the state religion in the Koryu kingdom, and the new invention made the Buddhist scriptures accessible to a larger reading public.

By the third decade of the 13th century the Mongols had conquered much of Asia, including northern China, and in 1231 they overran Korea, which became a Mongol protectorate. Using Korea as a base, the Mongol forces of Kublai Khan made two unsuccessful attempts to invade Japan (1274 and 1281). Subsequently, Mongol influence in Korea declined, and in 1368 their dynasty was overthrown in China itself by the Ming. Korean intercourse with China, slight during the Mongol period, revived in Ming times, and the Korean royal court adopted Ming manners and dress, which still survive in modern Korea.

Yi (Li) Dynasty.—During the 14th century the Koryu government became progressively weaker, and in 1392, General Yi Sŏnggye founded a new dynasty and established its capital at Seoul. With the accession of the Yi dynasty, Buddhist influence vanished and Confucianism became the official religion. The third Yi ruler, King Sejong, established Confucian colleges throughout Korea, as well as a foundry for making type to print the classics. Literature enjoyed

a veritable renaissance. Many books were published at this time, and the phonetic Korean alphabet was devised, enabling the untutored to read the classics.

In 1592, Toyotomi Hideyoshi, regent and military dictator of Japan, determined to conquer Korea. He sent an army of 250,000, which fought its way up the peninsula, killing many Koreans, looting art treasures, and destroying cities. Thousands of Korean craftsmen and artists were taken to Japan, where they helped to develop much of the best Japanese pottery, including Satsuma ware. After six years of fighting, Korea, with the aid of Chinese troops and an ironclad tortoise-shaped vessel invented by the Korean admiral Yi Sunsin, forced the Japanese to withdraw their forces from the country. Not long thereafter, in 1627, Korea was again invaded, this time by the Manchus, who were preparing their conquest of China and resented the Korean alliance with the Ming dynasty. The Manchu forces wrought much destruction and took thousands of prisoners with them when they quitted the country a few years later. Korea then recognized the nominal overlordship of the Manchu emperors, but, aside from formal annual tribute, was left to manage its own affairs. This bitter experience with invaders caused Korea to close its doors to all except China, and for 250 years the country was known as the Hermit Kingdom.

In the late 18th and early 19th centuries, Christian missionaries began to appear in Korea. They made a number of converts but encountered official opposition, for the Korean government suspected all foreigners. In 1866 the French government sent an expedition to Korea to avenge the death of some missionaries, and in 1871 a United States force landed on the island of Kangwha, hoping to open the country to trade. Both attempts were unsuccessful, as were the overtures of the other powers. The regent of Korea, Prince Taewŏn, remained inflexible and devoted all his efforts to improving Korean defenses. When, in 1876, the regent retired from active participation in government affairs, Japan was able to conclude a treaty of commerce and friendship with Korea. It was followed in 1882 by a Korean treaty with the United States, and shortly thereafter by treaties with Germany, France, Russia, and Great Britain. Korea's isolation was at an end; the Hermit Kingdom was opened to the world. All this was not accomplished without strong internal resistance. Although many Koreans were interested in adopting Western reforms, others were determined to resist all change, and in 1894 the Tonghaks (Eastern learning as opposed to Western learning) revolted against the government, demanding that all foreigners be driven out of Korea. Their well-armed forces easily defeated the government's infantry. Meanwhile, Japan, eager to secure coal, iron, and other raw materials in Korea and Manchuria, took advantage of the situation and sent troops into Korea, stating that they had come to help suppress the Tonghak Rebellion and to protect Japanese nationals. Although this proved unnecessary—the Tonghaks had suddenly retired, and Korea was at peace—Japan soon had 8,000 troops in the country. They clashed with Chinese troops, also sent to the aid of the Korean government, and the fighting spread. In the war which followed, Japan defeated China, and although the Japanese government had proclaimed its interest in Korean

independence, it kept troops in the country. Korea, paralyzed by the internal struggle between progressives and conservatives, could offer little resistance. The most vigorous opponent of Japanese influence, Queen Min, was assassinated in 1895.

Japan's success in Korea alarmed Russia, which had interests both in Manchuria and in Korea. On its part, Japan feared the possibility of Russian expansion into a prostrate Korea. Relations between Russia and Japan rapidly deteriorated, and in 1904 the Japanese decided to fight. The defeat of Russia in 1905 eliminated the last foreign opposition to Japan's control of Korea. In that year the Japanese forced the Korean government to agree to a protectorate. In 1907 they compelled the emperor to abdicate, and in 1910 they annexed the country to the Japanese empire.

Japanese Rule.—For 35 years Korea remained a colony of Japan, but the Japanese never succeeded in winning the cooperation of more than a tiny minority of the population. Although the Japanese administration made some effort to modernize the country, its improvements—railroads, port facilities, power plants, chemical works, and irrigation projects—were designed for the benefit of Japan, not Korea. Korean interests were completely subordinated to those of Japan, and as Japan began its policy of expansion, more and more of Korea's resources were drained to support the Japanese war effort. Japanese acquired a good deal of the best farming land, and Japanese corporations controlled industry, shipping, and large-scale trade. All important posts were filled by Japanese, and Japanese workers in Korea were generally paid twice as much as their Korean counterparts. Politically, Japanese rule was oppressive; Koreans enjoyed no freedom and had no rights. When, on March 1, 1919, Korean patriots organized a peaceful demonstration for independence, it was put down with harsh reprisals. Thousands of Koreans were jailed, and many lost their lives. Resistance continued, however, and each year many Koreans were imprisoned for political offenses.

Trusteeship.—On December 1, 1943, representatives of the United States, the United Kingdom, and China, meeting in Cairo, promised that "... in due course Korea shall become free and independent." Subsequently, at the Yalta and Potsdam conferences, it was decided that United States and Soviet troops should provisionally occupy the country, the dividing line between their respective zones being placed at the 38th parallel. This agreement was confirmed at the Foreign Ministers' Conference, held in Moscow in December 1945, which placed Korea under a four-power trusteeship for a maximum period of five years. Under Russian and American occupation policies, the two zones developed on entirely different lines, and the demarcation line became the equivalent of a frontier. When Russo-American negotiations on the future of Korea broke down, the problem was referred, in September 1947, to the United Nations.

In November 1947, the United Nations General Assembly approved a United States proposal to hold elections for a provisional Korean government. A U. N. commission was formed and sent to Korea to supervise elections for the entire country. Because of the disapproval of the Soviet government, however, it was not permitted to

enter northern Korea. Following this refusal, in December 1947 certain South Korean political leaders began to lay plans for a coalition conference of north and south with the aim of achieving peaceful unification. In February 1948 the United Nations Little Assembly voted to proceed with elections in the southern zone only. Meanwhile the plans for the coalition conference were maturing and on April 22-23 it convened at Pyongyang, attended by 545 delegates from all Korea, including 240 from South Korea. A resolution was adopted calling for peaceful unification of all Korea and demanding the withdrawal of American and Soviet troops, with strong opposition expressed from both north and south to any foreign military bases on Korean soil. Fanatic nationalism was the order of the day for all shades of political opinion, from extreme rightist, *Kim Koo*, through moderate, *Kim Kiusic*, to extreme leftist, *Kim Dubong*.

These avowed nationalists of the south returning from Pyongyang also denounced separate elections, whereupon the American military command cautioned the people of South Korea against listening to the dupes of Communist propaganda. Ignoring this warning, the People's Committee of northern Korea met in Pyongyang with representatives invited from southern Korea, and on May 1, adopted a constitution for a people's republic.

In the elections held in southern Korea on May 10, 1948, under the sponsorship of the United Nations Temporary Commission on Korea, 200 members of a constituent assembly were chosen. This assembly convened on May 31 and by July 12 had adopted a constitution for a republican government. On July 20, Dr. Syngman Rhee was elected first president, and on August 2, Gen. Lee Bun Suk became premier. The United States recognized the new government on August 12 and on August 15 Dr. Rhee proclaimed it as the Republic of Korea. The speed with which this government was set up did not appeal to those nationalists who could not renounce the goal of immediate unification.

A month later, on Sept. 10, 1948, a people's republic was also formally proclaimed in North Korea. It too claimed jurisdiction over the entire country and requested the immediate evacuation of all Soviet and United States troops. By September 19 the Soviet government announced that it planned to withdraw all its troops by Jan. 1, 1949. On Sept. 28, 1948, the United States sent a note to the USSR, stating that troop withdrawal was part of the larger question of Korean unity and that the decision on the United States troops would be left to the United Nations General Assembly.

It was reported by October that Soviet troops had begun to evacuate northern Korea. On Nov. 20, 1948, the National Assembly of South Korea adopted a resolution, favored by President Rhee, requesting that United States troops remain until the defenses of southern Korea had become strong enough to counterbalance the Soviet-trained northern army estimated to number about 100,000. This seemed necessary, as already there were insurrections against the South Korean government. On Oct. 19, 1948, at Yosu, a seaport in the middle of the southern coast, an estimated 12,000 insurgents had revolted; their rebellion was crushed with savage cruelty. To quiet the dismay of the unionists, north and south, Dr. Rhee and his cabinet members promised conquest

of the north by his armed forces. North Korean radio broadcasts likewise promised unification threatening to destroy the South Korean government.

On Dec. 12, 1948, the southern Republic of Korea was recognized by the U. N. General Assembly in Paris as the only lawful government of Korea, after the United States had brought to that body the Korean problem. Sporadic rebellion continued in the South Korean republic. During the winter of 1948, 15,000 people were killed in Cheju during a rebellion there. On June 8, 1949, President Truman recommended that Congress appropriate \$150,000,000 for aid to the South Korean republic. But on Jan. 19, 1950, the bill was defeated, its opponents arguing that it would be "money thrown down the Korean rat-hole."

Meanwhile the northern forces had increased their numbers near the 38th parallel, where the highways through paddy lands leading to the north had never been blockaded, and on June 28, 1949, the northerners invaded Ongjin, a peninsula on the western coast. The southern government reacted with widespread terrorism and unrest. Assassination of those who voiced a desire for peaceful unification had long been the order of the day, and the Home Minister of the southern republic warned, "The torturing of communists by police is not to be criticized." This policy, continued from previous Japanese practice, was advertised with a display of murdered bodies on doorsteps and served to confuse and embitter the populace further.

In this tense atmosphere the elections of May 30, 1950, were held in South Korea, the 210 assembly seats being contested by 2,144 candidates. The majority of successful candidates were without party affiliation, Dr. Rhee's following securing only about one fifth of the seats. Many Koreans sympathized with the campaign which still continued in secret for peaceful unification. By this time substantial aid had come from the United States, the House of Representatives having reversed its former decision to the extent of granting \$60,000,000. Dr. Rhee would seem to have won at last unqualified support from the Congress of the United States. Furthermore, Ambassador John Foster Dulles on June 19, 1950 told a distraught and uneasy audience, the South Korean National Assembly: "The American people give you their support, both moral and material. . . . You are not alone, you will never be alone. . . ." Six days later, on June 25, 1950, the Korean war broke. The tanks of the North Korean Army rolled southward expecting to join forces with the insurgents south of the 38th parallel.

On June 27, 1950, the United Nations recommended that its members support the Republic of Korea (south) which it had recognized as the only lawful government of Korea. But the South Korean Army, estimated at 100,000 men with 50,000 armed police trained by the Japanese method, at the outset became demoralized even beyond the most pessimistic anticipations of western observers. In four days Seoul was in the hands of the Communist armies from the north, well prepared and well-equipped. These armies would have swept to Pusan with the speed of an avalanche had not United States ground forces stationed in Japan been sent by President Truman on his own authority to fight a delaying action. The invasion tide was stayed at Taejon by the

United States regular army troops, including a large proportion of young soldiers with no prior battle experience.

General Douglas MacArthur, the United States supreme commander in the Far East, was named commander-in-chief of the United Nations' unprecedented move to enforce its decrees by arms. Australia, Belgium, Canada, Colombia, Ethiopia, France, Greece, Luxembourg, Netherlands, New Zealand, the Philippines, Thailand, Turkey, the Union of South Africa, and the United Kingdom contributed ground, air and naval forces, while India, Norway, Panama and Sweden sent noncombat aid. Fierce hand-to-hand fighting lasted from August 5 to September 15 when the U. N. troops, supported by the United States' and allies' air and naval forces, gained a preliminary victory, following an amphibious landing at Inchön led by General MacArthur, which cut behind the Communists on the Pusan perimeter. By September 25, having occupied a beachhead from Pusan to Kyöngju, the U. N. forces broke through to join the forces at Inchön. On September 29 South Korean troops re-entered Seoul in triumph.

On Oct. 1, 1950, South Korean forces first crossed the 38th parallel, initiating an invasion of North Korea and anticipating a recommendation made on October 4 by the United Nations Assembly that "appropriate steps be taken to ensure conditions of stability throughout Korea." The northern capital, Pyongyang, capitulated to the U. N. forces on October 19. Within another week the U. N. and South Korean troops halted a few miles below the Manchurian border, and the historic action of the U. N. seemed on the point of attaining a victorious conclusion.

However, on Nov. 5, 1950, Chinese troops crossed the Yalu River from the Manchurian side, joining battle in behalf of the North Koreans. This event had been unforeseen by the United States, despite the fact that a mutual pact between North Koreans and Chinese had been previously reported by western newspapers (the *New York Times* among others). Evidently the fact was discounted as an agreement between two governments, which, from the U. N. point of view, had no legal existence. But the Chinese invading army was large in numbers and comprised seasoned, well-equipped troops. The United States 7th division launched a counteroffensive against the new enemy forces on November 24, as the war continued with renewed hardship and misery in the icy winter of northern Korea.

Mr. Wu Hsiu-chuan, heading a mission of the Peking government, was immediately invited to attend discussions of the United Nations Security Council, that he might hear at first hand the aims of that body, but on Dec. 19, 1950, he left the United States with his mission unaccomplished and bearing only the condemnation of the U. N., including that of the Chinese Nationalist government on Formosa which, in the eyes of the U. N., was still the legal government of China.

By Christmas the second evacuation of Seoul by the South Koreans was under way, refugees streaming out with household goods in handcarts, and carrying their children on their backs. Some of the refugees fled with only their children. Armies of Chinese troops, called by the Peking government "Volunteers," together with the North Koreans now recaptured

Seoul. By mid-January the Red Army had reached Suwan, Yoju, Wonju and Kangnung.

In contrast to the initial panic of the opening days of the Korean War, the South Korean populace displayed characteristic Oriental fatalism and a kind of order, as millions of homeless refugees of indeterminate political persuasion eddied south to become wards of the U. N. forces firmly entrenched at Pusan. Meanwhile, in less than 7 months, the United States Air Force had dropped 42,000 tons of bombs on Korea, 3,000 tons more than were dropped on Germany throughout the year of 1942 (according to General O'Donnell's report from Tokyo).

On Feb. 1, 1951, the U. N. General Assembly passed a resolution calling the Communist Chinese of the so-called People's Government the aggressors in Korea, by a vote of 44 to 7. India, abstaining, reported that Peking would discuss a ceasefire under certain conditions. On February 7, the U. N. rejected by a vote of 49 to 5 the Russian charge of aggression by the United States in Korea. The Chinese launched another major offensive in Korea on February 12, which collapsed six days later. On March 15, 1951, the U. N. troops again re-occupied Seoul, a city reduced almost to rubble.

The pattern of a stalemate had already taken shape. On March 31 an American tank patrol once more crossed the 38th parallel, to anticipate a suspected May Day drive upon Seoul, preluding several other counter-attacks to the north and along the central and eastern sectors. The second Red spring offensive was thereby thrown off balance and delayed until May 17. When it finally got under way the U. N. troops held firm. Three United States corps, the 1st, 9th and 10th, including British and other U. N. combatants and one South Korean corps opposed a formidable Chinese army, the 37th, 38th, 39th, 40th, 42nd and 66th corps plus one North Korean corps and an assortment of other North Korean divisions. The supply line of the Communist Army stretched 250 miles to the Yalu, a target under continuous air attack by the United States Air Force. It could not, however, be broken, and any gain made by the U. N. ground forces only served to shorten and strengthen the enemy supply line. By the summer of 1951 the 38th parallel, midway across the peninsula, delineated a deadlock.

On June 23rd, Russia's delegate to the United Nations, Jacob Malik, proposed a truce in Korea to take place roughly along the 38th parallel. A preliminary talk was held in Kaesong, July 8, and two days later top level truce talks began there. Beginning July 12 an interruption occurred for three days over U.S. demands that Kaesong, a bit south of the parallel and strongly pro-northern in sympathy, be neutralized. Another interruption of three days was brought about by the Communist delegates over the issue of the withdrawal of all foreign troops from Korea as a first condition for a truce. On July 26th, the U. N. and the Communists agreed on a five point agenda; but on August 23rd the Reds charged an attack on the place of meeting, the neutralized town of Kaesong, and the talks were again broken off. At the insistence of the U. N., they were resumed at Panmunjom, on the score that it was more neutral than Kaesong. On November 27 a provisional cease-fire line was drawn up, with the condition that the agreement would expire

on Dec. 27, 1951, if by that date a truce had not been concluded. It was generally considered at the time that the truce, so elusive during the latter half of 1951, was sure to be signed some time in 1952.

Meanwhile, there was a political crisis in South Korea. In January 1952, the National Assembly rejected a proposal by President Rhee that the constitution be amended to provide for direct election of the president. In April his opponents introduced a bill providing for responsible cabinet government. After his supporters had demonstrated against the second bill, the president declared a state of martial law. Many persons were arrested, including 13 members of the assembly. Accusing Rhee of dictatorial and bureaucratic methods, Vice President Kim Sung Soo resigned on May 29 (the resignation was not formally accepted until June 28). Protests by the United Nations Commission for the Unification and Rehabilitation of Korea (UNCURK) were flouted, and the arrested assemblymen were tried by court-martial behind closed doors. When the president's opponents boycotted assembly sessions so as to preclude the gathering of the two-thirds quorum necessary for adoption of a constitutional amendment, they were escorted to the assembly by the police. Eventually, in July, the amendment providing for direct election of the president, together with enabling legislation, was passed by the assembly. On August 5, President Rhee was elected for a second term.

Gen. Matthew B. Ridgway, who had succeeded General MacArthur as supreme commander, United Nations Forces in Korea, on April 11, 1951, was in turn succeeded by Gen. Mark W. Clark on May 12, 1952.¹ In the summer and autumn of 1952 heavy fighting was resumed. Meanwhile, the truce talks at Panmunjom remained deadlocked on the issue of the repatriation of the prisoners of war. The North Korean and Chinese Communist delegates insisted on the mutual return of all prisoners, while the United Nations stood for voluntary repatriation. The matter was extensively debated at the seventh session of the United Nations General Assembly, which adopted, on Dec. 3, 1952, a revised Indian resolution calling for the establishment of a four-nation repatriation commission which would, after 90 days, refer prisoners refusing repatriation to a political conference for disposition. If the conference had not made a decision after 30 days, such prisoners would be entrusted to the United Nations for care and disposition. These proposals were rejected by the Communists.

On April 11, 1953, agreement was reached on the exchange of seriously ill and wounded prisoners, and between April 20 and May 3, 684 United Nations prisoners and 6,670 Communists were repatriated. During this period further negotiations on the prisoner issue were held at Panmunjom. Finally, on June 8, agreement was reached on the establishment of a Neutral Nations Repatriation Commission (NNRC) representing Sweden, Switzerland, Czechoslovakia, Poland, and India, the Indian member to serve as chairman. The commission would have custody of the prisoners for a 90-day explanation period and would then turn over those still unrepatriated to the proposed political conference for 30 days, after

which it would help any prisoners who wished to go to neutral countries.

The armistice agreement was signed on Jul 27, 1953. Fighting, which had flared up again in May and June, now ceased, and each side withdrew 2 kilometers from the battle lines, leaving a demilitarized neutral zone between them. It was reported on October 8 that United Nations battle casualties in the Korean War were as follows: United States, 144,173 (including 25,604 dead); South Korea, 1,312,836 (including 415,004 dead); Australia, 1,591; Belgium-Luxembourg, 453; Canada, 1,396; Colombia, 686; Ethiopia, 656; France, 1,135; Greece, 715; Netherlands, 704; New Zealand, 115; Philippines, 488; Union of South Africa, 42; Thailand, 913; Turkey, 3,349; and United Kingdom, 5,017.

President Rhee, who had opposed the truce, on his own initiative released about 27,000 anti-Communist North Korean prisoners of war in June 1953. Repatriation under the armistice agreement began on August 5 and was completed on September 6, 12,760 United Nations prisoners and 75,797 Communists being exchanged. The return of the United Nations prisoners brought confirmation of reports of Communist atrocities, including the use of torture to obtain spurious confessions of guerrilla warfare. The explanation sessions for prisoners refusing repatriation were held by the NNRC from October to December. Few prisoners changed their minds, and in January 1954, a political conference having been arranged, the Indian chairman of the NNRC turned over 21,814 unrepatriated Chinese and North Korean prisoners to the United Nations Command and 347 pro-Communist prisoners (including 21 Americans) to the Communists.

Under the provisions of the armistice agreement, a Neutral Nations Supervisory Commission began functioning on Aug. 13, 1953. With regard to the political conference recommended by the agreement, however, it proved difficult to make arrangements satisfactory to both sides. Finally, at the Berlin Conference held in February 1954, the Big Four foreign ministers agreed to hold a meeting on Indochina and Korea at Geneva, Switzerland. The Geneva Conference, which discussed Korean matters from April 26 to June 1954, was attended by the United States, the United Kingdom, France, the USSR, Communist China, North Korea, South Korea, and all of the other United Nations members that fought Korea, with the exception of South Africa. An agreement was reached on the issue of free elections under United Nations supervision, which 16 non-Communist delegations considered essential, and the future of Korea was left unsettled.

The war had caused tremendous damage to Korea. Several million civilians died, and it was estimated in 1953 that more than 10 million persons had been left homeless in South Korea alone. Reconstruction was slow, but with United States aid, amounting to about \$1.5 billion in the five-year period ending June 1955, some progress was made in rehabilitating the South Korean economy.

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¹ Clark was replaced by Gen. John E. Hull on Oct. 7, 1953; Hull by Gen. Maxwell D. Taylor on April 1, 1955; and Taylor by Gen. Lyman L. Lemnitzer on May 13, 1955.

* On July 22, 1954, the United States Department of Defense revised the total to 142,067 (23,345 dead, 124 missing in action, and 105,768 wounded); on November 5, in a tentative final report, the total was raised to 142,091.

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YOUNGHILL KANG,
Author and Lecturer.

KORITSA. See KORCE.

KORIYAMA, kō-rê-yā-mā, city, Japan, situated in Fukushima Prefecture, Honshu, on the Abukuma River, 25 miles south of the city of Fukushima. It is the trading center for a rice-growing district and has extensive textile mills and chemical plants. The city was damaged by bombs in World War II. Pop. (1947) 64,741.

KORN, kôrn, **Arthur**, German physicist: b. Breslau, Germany, May 20, 1870; d. Jersey City, N. J., Dec. 21, 1945. After studying at the universities of Freiburg, Leipzig, Paris, and Berlin, taught physics at Munich (1895-1908) and Lin (1914-1939). From 1939 until his death lived in the United States. Korn is credited with the earliest transmission of a photograph of a circuit, from Munich to Nürnberg and back in 1904, and in 1923 he transmitted pictures from Rome, Italy, to Bar Harbor, Me. His best work, however, was done in the theory of potentials and mathematical physics. Among his published works are *Eine Theorie der Gravitation der elektrischen Erscheinungen auf Grundlage der Hydrodynamik* (2 vols., 1892-1894); *Handbuch der Phototelegraphie und Telautographie* (11); and *Bildrundfunk* (with E. Nesper, 1926).

KORNER, kûr'nêr, **Christian Gottfried**, German jurist and literary critic: b. Leipzig, Germany, July 2, 1756; d. Berlin, May 13, 1831. He studied law at the universities of Göttingen and Leipzig, and in 1783 became councilor of the Consistory Court of Dresden. In 1790 he was appointed chief justice of the Dresden Court of Appeals, and in 1815 joined the Prussian civil service as privy councilor of the Ministry of the Interior. Körner is best known for his friendship with the poet Friedrich von Schiller, who resided at his home in Dresden from 1785 to 1787. He prepared the first collected edition of Schiller's works (12 vols., 1812-1815) and contributed a number of articles to Schiller's magazines. In 1808 these articles were published in book form under the title *Ästhetische Ansichten*.

KORNER, Karl Theodor, German poet: b. Dresden, Germany, Sept. 23, 1791; d. Gadebusch, near Schwerin, Aug. 26, 1813. The son of Christian Gottfried Körner, he studied at Freiberg, Leipzig, and Berlin, and in 1811 went to Vienna, where he wrote a number of light comedies, including *Der grüne Domino*, *Der Vetter aus Bremen*, *Die Nachtwächter*, and *Die Gouvernante*, as well as several tragedies, of which *Zriny* and *Rosamunde* were the most successful. These won him appointment as theater poet at the Hofburgtheater. In 1813 he left Vienna for Breslau, where he joined a volunteer corps fighting against Napoleon. He was wounded at Kitzen and killed in a skirmish near Schwerin. A collection of his early poems, published in 1814, appeared in the year following his death, in 1814 his father, published his best-known work, a collection of patriotic

songs entitled *Leyer und Schwert*, of which one, *Das Schwertlied*, was composed on the battlefield a few hours before he died.

KORNGOLD, kôrn'gôlt, **Erich Wolfgang**, American composer: b. Brünn, Moravia, May 29, 1897. The son of the music critic Julius Korngold (1860-1945), he received his musical education from Alexander von Zemlinsky and Robert Fuchs and first attracted attention as a child prodigy. A pantomime ballet, *Der Schneckemann*, composed when he was 11, was produced by the Vienna Opera in 1910. Other early works include *Sinfonietta* (1912) and two one-act operas, *Der Ring des Polykrates* (1916) and *Violanta* (1916). In 1919 he became a conductor in Hamburg, and in 1927 professor at the Vienna State Academy for Music. He went to the United States in 1934, settled in Hollywood, and in 1943 became an American citizen. Among his later works are three operas, *Die Tote Stadt* (1920), *Das Wunder der Heliane* (1927), and *Kathrin* (1939); music for many films, two of which, *Anthony Adverse* (1936) and *The Adventures of Robin Hood* (1938), received awards from the Academy of Motion Picture Arts and Sciences.

KORNILOV, kûr-nyê'lôf, **Lavr Georgyevich**, Russian general: b. Ust Kamenogorsk, Kazakhstan, Russia, July 18, 1870; d. Ekaterinodar, March 31, 1918. The son of a Cossack officer, he studied at the St. Petersburg Artillery College and received his commission in 1892. He commanded a brigade in the Russo-Japanese War, and from 1907 to 1911 was military attaché in Peking. Early in World War I he commanded a division in Galicia. Captured by the Austrians in 1915, he escaped in August 1916 and was placed in command of the 20th Army Corps. After the revolution of March 1917 he was given command of the troops in Petrograd, and in July of the Eighth Army. Then, in the following month, he was made commander in chief. Kornilov advocated decisive measures to restore discipline in the army, and when these were opposed by Aleksandr Kerenski, attempted to make himself dictator. His coup failed, and in September he was removed from his command. After the Bolshevik Revolution in November, Kornilov went to the Caucasus, where he organized an anti-Bolshevik force. He was killed at the siege of Ekaterinodar.

KOROLENKO, kû-rû-lyân'kô, **Vladimir Galaktionovich**, Russian novelist: b. Zhitomir, Russia, July 27, 1853; d. Poltava, Dec. 25, 1921. His mother was of aristocratic Polish origin, and when she was left a widow in straitened circumstances, she opened a boys' boarding school. Korolenko, then 15, assisted her and also gave lessons outside. In 1870 he entered the St. Petersburg Technical School, and in 1872 the Moscow Agricultural Institute, but, having acquired revolutionary opinions, was expelled and sent to Kronshtadt. He managed to return to St. Petersburg, where he secured a position as a reader in a publishing house. He was already a marked man, and in 1879 was arrested and sent to Siberia. He wrote a letter protesting his exile, and was then transferred to Yakutsk, where, amid the immense forests known as taiga, he spent three miserable years. He wrote his first notable story, *Son Makára* (*Makár's Dream*), which was published in 1885, as well as a number of tales, giving remarkably realistic pictures of life in that

desolate region and of suffering humanity, and introducing various types of revolutionists, exiles, and vagabonds as he saw them in the frozen Siberian forests and in far-distant Sakhalin. His *Sketches of a Siberian Traveler* was published in 1896. In these stories and in *The Tramp* (Brodyág, 1886) he gives many reminiscences of his own experiences, as a boy and as a young man. *The Murmuring Forest*, published in the same year as *Brodyág*, considerably added to his reputation, which was wholly confirmed by *The Blind Musician* (Slepói Musikant, 1886), which is an idyllic tale of that Ukraine where his childhood was spent (translated by Aline Delano, with introduction by George Kennan, Boston 1890). In 1888 he began the publication of a long novel in *Russian Thought* (Russkaya Mysl'), but as soon as its plot began to develop, the censor interposed a veto and the publishers were compelled to announce that "on account of circumstances beyond their control" the rest of the work could not be printed. In supposed answer to Tolstoy's doctrine of nonresistance, he wrote *The Legend of Florus* which is regarded as one of his most beautiful tales. The subject was taken from Josephus. Other stories and articles were elicited by famine conditions in Russia and by the evil customs of dueling. In 1885 he was permitted to return from Siberia and engaged in journalism and other literary activities. In 1903 the 50th anniversary of his birth was celebrated all over Russia, and in 1908 the occasion of the 30th anniversary of his commencement as an author was made a jubilee. He is one of the freshest and most vivid of Russian writers and, as shown in his *Yom Kippur*, has a sense of humor unusual in Russian novelists.

NATHAN HASKELL DOLE.

KOROSI CSOMA, kù'rú-shí chō'mō, **Sandor** (known also as CSOMA DE KÖRÖS), Hungarian traveler and philologist: b. Körös, 1798?; d. Darjeeling, India, April 11, 1842. Seeking to investigate the origin of the Magyar race, in 1820 he went to Egypt and thence to Tibet, where he spent four years (1827-1830) in a Buddhist monastery. He next lived for some years in Calcutta, India, and there published a *Tibetan-English Dictionary* (1834) and *Grammar of the Tibetan Language* (1834). In 1842 he set out for western China but died en route.

KORSAKOV, Nikolai A. Rimski. See RIMSKI-KORSAKOV.

KORSØR, kôr-sûr', seaport, Denmark, in Sorø County, on the southwest coast of Zealand (Sjælland) 62 miles west-southwest of Copenhagen (København). Korsør has been a trading center since the 14th century; the fisheries are of importance. Pop. (1945) 10,667.

KORTING, kûr'ting, Gustav, German philologist: b. Dresden, June 25, 1845; d. Kiel, Feb. 1, 1913. He studied in Leipzig (1863-1867), was appointed head teacher at Dresden (1868), and became professor of Romance and English philology at Münster (1876) and at Kiel (1892). His works included *Enzyklopädie und Methodologie der Romanischen Philologie*, 3 vols. (1884-1886); *Grundriss der Geschichte der Englischen Literatur* (1887; 5th ed. 1910); *Handbuch der Romanischen Philologie* (1896).

KORTRIJK, kôrt'rîk (Fr. COURTRAI, kōr-

trâ'), city, Belgium, in West Flanders Province, on the Leie (Lys) River 15 miles north-northeast of Lille. In the 13th-century Church of Notre Dame is one of the greatest works of Sir Anthony Vandyke (Van Dyck), *The Raising of the Cross*. The town hall dates from the 16th century. A high grade of linen is manufactured, and the city is also renowned for its lace of exquisite design and workmanship. Known in the time of the Romans as Cortoriacum, Kortrijk attained the status of a town by the 7th century. Weaving laid the foundations of its prosperity, and in the Middle Ages the population was in excess of 100,000. Here, in 1302, took place the celebrated Battle of the Spurs (q.v.) between the French and the Flemings. Pop. (est 1948) 40,085.

KORZYBSKI, kôr-zip'skê, Alfred Habdank Skarbek, American scientist and writer: b. Warsaw, Poland, July 3, 1879; d. Sharon, Conn., March 1, 1950. He attended the Warsaw Polytechnic Institute, managed his family's estate, and taught mathematics, physics, French, and German in Warsaw prior to World War I. During that conflict he was twice wounded and served on the Russian General Staff before, in 1916, being sent to the United States and Canada on a military mission. In 1920 he served with the Polish Commission to the League of Nations. Thereafter making his home in the United States, he became an American citizen in 1940. A pioneer in semantics, he formed a new school of psychological-philosophical semantics which he named general semantics. His theory was put to practical use in the fields of public, industrial and race relations, and wherever misunderstanding among people was due to different values and structures of words. He was president and the director of the Institute of General Semantics which he established in Chicago, Ill., in 1938 and moved, in 1946, to Lakeville, Conn. Beside numerous scientific papers, he published *Manhood of Humanity—The Science and Art of Human Engineering* (1921) and *Science and Sanity; an Introduction to Nonaristotelian Systems and General Semantics*, 2d ed. (1941).

KOS or **COS**, kôs, island, Greece, one of the Dodecanese group in the southeastern Aegean Sea, situated off the end of the Bodrum Peninsula of Asia Minor (Turkey in Asia). With a length of about 25 miles, the island has an area of 111 square miles. The surface rises partly into rugged hills, though a considerable portion is fertile and well cultivated, yielding grapes, oranges, olives, and pomegranates. Most of the islanders (20,982 in 1947) live in the capital town of Kos (18,482), on the northeast coast. In the *Iliad*, Kos is mentioned as one of the allies of the Greeks. Later it was annexed to the Dorian Hexapolis. It was the birthplace of Hippocrates, Ptolemy II (Ptolemy Philadelphus), Apelles, and other famous men. The island changed hands many times until its capture by the Turks in 1523. It was occupied by Italy during her war with Turkey in 1912; and, with other islands, was ceded to Italy by the Treaty of Lausanne in 1924. By the treaty of 1947, Italy transferred sovereignty to Greece.

KOSCIUSKO, kôs-i-tis'kô, Thaddeus (P. TADEUSZ ANDRZEJ BONAWENTURA KOSCIUSKO) Polish patriot: b. in Grand Duchy of Litt

Feb. 12, 1746; d. Solothurn, Switzerland, Oct. 15, 1817. He pursued military studies at Warsaw and in France, and in 1776 he joined the American Revolutionary Army as a volunteer. He was appointed engineer with the rank of colonel, and afterward general of brigade. He performed excellent service, and at the end of the war received the thanks of Congress, with the brevet of major general. He returned to Poland in 1784, and on the occasion of the reorganization of the Polish Army in 1789 was appointed major general. Having declared for the constitution of May 3, 1791, he fought in the war which soon after broke out, with the rank of lieutenant general. When Stanislas II Augustus (q.v.), in 1793, agreed to the second partition of Poland, Kosciusko withdrew from the army and retired to Leipzig. At this time the Legislative Assembly in France conferred on him the title of French citizen. When a new insurrection broke out in Poland in 1794 for the purpose of delivering the country from the Russians, Kosciusko was recalled and made commander in chief of the insurgent army. He defeated the Russians at Racławice, but at the Battle of Maciejowice his army was defeated and he himself wounded and taken prisoner. He remained in captivity for two years, and then proceeded to England, and thence to the United States. In 1798 he returned to Europe on a mission from Congress to France, and contributed to bringing about an understanding between the two countries and the United States. In April 1812, he addressed a petition to Alexander I, emperor of Russia, requesting him to grant an amnesty to all expatriated Poles, to accept the title of king of Poland, and to give that country a free constitution similar to that of Britain; but the petition remained without effect. In April 1817 he issued a letter of emancipation to the serfs on his estate in Poland. His death was occasioned by a fall from his horse. In 1818 his body was moved at the expense of the Emperor Alexander of Russia to Krakow, where it was buried in a cathedral, and a monument erected to him.

KOSCIUSKO, city, Miss., seat of Attala county, near a branch of the Pearl River 46 miles southeast of Greenwood. It is the center of dairying district. Pop (1950) 6,741.

KOSCIUSKO, Mount, Australia, the highest peak on the continent, having a height of 3,228 feet. Located in New South Wales, it is the culminating point of the Mungion Range, a group of the Australian Alps (q.v.). This region is the coldest portion of Australia, and snowdrifts are met with even in summer. There are numerous evidences of former glaciers, notably lakes and tarns. The tree line is at 5,500 feet; above this level there are bogs and summer pastures. Kosciusko was formerly known as Mount Townsend.

KOSE NO KANAOKA, kō-sē nō kā-nā-ō-ka, Japanese figure and landscape painter: fl. 850-880. His school of artists was inspired by that of the school in China during the Tang dynasty. He resided in Engi where, it is believed, he designed numerous artistic gardens. His work as a painter was notable for fineness of line and color.

KOSEGARTEN, kō-zē-gär-tēn, Johann Gottfried Ludwig, German Orientalist and historian: b. Altenkirchen, island of Rügen, Sept.

10, 1792; d. Greifswald, Aug. 18, 1860. He studied theology and philosophy at Greifswald and Oriental languages at Paris (1812-1814), becoming adjunct professor of the faculty at Greifswald (1815). He was appointed professor of Oriental languages at Jena (1817), but returned to Greifswald (1824) where he died leaving many valuable works uncompleted, such as *Taberistanensis annales*, vols. 1-3 (1831-1853); *Kitāb al-aghāni*, vol. 1 (1840); *Pantschatantra* (1848 and 1859). Of his later works might be cited *Pommersche und rügische Geschichtsdenkmäler*, vol. 1 (1834); *Codex Pomeraniae diplomaticus*, vol. 1 (1843-1862); *The Hudsailian Poems*, vol. 1 (1854).

KOSER, kō'zēr, Reinhold, German historian: b. Schmarsow, Prussia, Feb. 7, 1852; d. Berlin, Aug. 25, 1914. He studied history and philology in Berlin, Vienna, and Halle, and was appointed to work in the Berlin Academy on the correspondence of Frederick the Great. He was appointed keeper of the state archives at Berlin (1882), and was given the posts of assistant professor at Berlin (1884) and professor at Bonn (1891); he succeeded Heinrich von Sybel (1817-1895) as general director of the Prussian state archives (1896). He wrote many works pertaining to Frederick the Great, including *Politischen Korrespondenz König Friedrichs der Grosse* (1879-1883).

KOSHER, kō'shēr, or **KASHER**, in Hebrew כָּשֵׁר, meaning lawful, pure, clean, in conformity with the laws of the Talmud. It is the antithesis of *treifa* or *tref*, the unclean. Food and utensils which have undergone the operations and rituals laid down for the orthodox Jews, such as meats slaughtered under the ritual of the Mosaic law, are said to be kosher. The slaughterer (*shohet*) acts under the license of a chief rabbi. As the far-reaching rules of the Jewish authorities render it impossible for a Jew to obtain sustenance among communities of other religions without breach of some or other of these Mosaic laws or their renderings, there are numbers of Jews who therefore give the matter secondary consideration, and are known as liberal Jews.

KOSHTAN TAU, kōsh'tān tou', peak, Caucasus Mountains, near Dykh Tau, within the Kabardino-Balkarian Autonomous Soviet Socialist Republic, a subdivision of the Russian Soviet Federated Socialist Republic. Its height above sea level is 16,875 feet. The peak is particularly difficult to ascend.

KOSICE, kō'shī-tsě, city, Czechoslovakia, in Slovakia Province, on the Hernád River, 135 miles northeast of Budapest. The Magyar name is KASSA; and the German, KASCHAU. Among its attractive buildings are several old palaces; Saint Elizabeth Cathedral, a fine Gothic structure of the 14th century; Saint Michael's Church, which dates back to the 13th century; and an historic municipal theater. Industries include distilling, brewing, and sawmilling, and the manufacture of woolen textiles and furniture. Košice has had municipal government since 1235, and thereafter it was successively under Austrian, Hungarian, Russian, and Turkish sovereignty. It was part of Hungary during the existence of the Austro-Hungarian Empire, and in 1920, by the Treaty of Trianon, it was incorporated in the new republic of Czechoslovakia. Under pressure

from Germany, the city was restored to Hungary in 1939; it was regained by Czechoslovakia in 1945. Pop. (1947) 58,089.

KOSLIN. See **KOSZALIN**.

KOSOVO, or **KOSSOVO**, or **KOSOVO POLJE**, kô'sô-vô pô'lyč, elevated plain, Yugoslavia, located in the autonomous Province of Kosovo-Metohija, in the southern part of the republic west of Priština. The plain, about 50 miles long and 15 miles wide at its broadest, produces grain, tobacco, and fruit. It is of melancholy interest in Balkan history. At a battle here on June 20, 1389, the Turks under Murad I defeated the Serbs, Albanians, and Bosnians commanded by Lazar I, prince of Serbia. With Lazar's death in the battle the old Serbian Empire was crushed and Serbia passed under the suzerainty of the Ottoman Empire. Here, too, at a battle fought on Oct. 17, 1448, the forces of Sultan Murad II defeated John Hunyadi, national leader of Hungary. During World War I the plain was the scene of a battle on Nov. 20-25, 1915, at which the Bulgarians defeated the Serbians and forced the latter to retreat into the mountains of Albania.

KOSSEL, kôs'ël, **Albrecht**, German physiological chemist: b. Rostock, Sept. 16, 1853; d. Heidelberg, July 4, 1927. He studied medicine at Strasbourg and Rostock, and during 1877-1881 he was assistant to Felix Hoppe-Seyler at the former city. Turning then to the study of physiological chemistry, in 1883 he was appointed an assistant professor at the Berlin Physiological Institute. In 1895 he went to Marburg as professor of physiology, and in 1901 he accepted a like chair at Heidelberg. He was awarded the Nobel Prize for physiology and medicine in 1910. His chief work was the study of the cell and its nucleus elements; the decomposition of albumen in its conversion to peptones; discovery of adenin, thymin; action of the nucleic acids on bacteria. He also made researches in trypsin digestion. He wrote *Untersuchungen über die Nukleine und ihre Spaltungsprodukte* (1881); *Die Gewebe des menschlichen Körpers und ihre mikroskopische Untersuchung* (1889-91) in collaboration with Behrens and Schiefferdecker; *Leitfaden für medizinisch Chemische Kurse*, 7th ed. (1917).

KOSSINNA, kô'si-nä, **Gustaf**, German archaeologist: b. Tilsit, Sept. 28, 1858; d. Berlin, Dec. 20, 1931. He studied at Göttingen, Leipzig, Berlin and Strasbourg and was promoted to doctor of philosophy at Strasbourg University (1881). He was appointed to a position in the University Library at Halle (1886) and in the Berlin Library the same year; and became curator of the Bonn Library (1887), and of the Royal Berlin Library (1892) and librarian (1894). He was given the degree of professor (1900) and undertook a prolonged trip to study the German museums of archaeology. In 1902 he was made professor of German archaeology of the Berlin University and founded the *Gesellschaft für Deutsche Vorgeschichte* (1909). He was a prolific contributor to the archaeological journals. On ethnology he wrote *Die ethnologische Stellung der Ostgermanen* (1896); *Die Indogermanen Frage archäologisch beantwortet* (1902); *Die Herkunft der Germanen* (1911).

Among his works on archaeological subject should be cited *Ursprung des Germanennamen* (1895); *Die vorgeschichtliche Ausbreitung des Germanen in Deutschland* (1896); *Zur Geschichte des Volksnamens Griechen* (1896). He is perhaps best remembered for his *Altgermanische Kulturhöhe* (1927).

KOSSOVO. See **Kosovo**.

KOSSUTH, kôs'ôoth, **Ferenc**, Hungarian statesman: b. Budapest, Nov. 16, 1841; d. there May 25, 1914. The son of Lajos Kossuth (q.v.) he was an engineer prior to 1894, when he returned to Hungary following restoration of the constitution. He became a leader of the independence party in the legislature, and from 1900 until 1909 he served as minister of commerce in the Cabinet of Sándor Wekerle.

KOSSUTH, **Lajos**, Hungarian patriot and statesman: b. Monok, Sept. 19, 1802; d. Turin, Italy, March 20, 1894. He came of a family of noble rank and of the Protestant religion. He studied and practised law, and in 1832 entered the Parliament of Pest as the deputy of absent magnates; at this period he also edited a newspaper which, owing to the stringent press laws, had to be circulated in manuscript. For persisting in publishing the parliamentary debates he was condemned to four years' imprisonment, but was released in 1840 before the end of his term. In 1841 he became editor of the *Pest Journal*, a paper that advocated very advanced views, and in 1844 founded the National League in opposition to the Viennese government. In 1847 he was elected to the Hungarian Diet by the National Party, and in 1848 became minister of finance in the Hungarian government. His influence had much to do in bringing about the revolution which followed and in which he played the most prominent part, being appointed governor with dictatorial powers by his fellow countrymen, but the intervention of Russia rendered all the efforts of the Magyars unavailing. He resigned his position in favor of Arthur von Görgey (whom he accused of treachery), and in 1849 he found it necessary to take refuge in Turkey, where he was kept as a prisoner. Being released in 1851 through the influence of Great Britain and the United States, he soon after visited both these countries and was received in the most enthusiastic manner. He endeavored subsequently to induce Napoleon III of France, as well as Victor Emmanuel II of Italy, to act against Austria in favor of Hungarian independence, but without success. Though by the amnesty of 1867 he might have returned to his native land he did not do so, but lived chiefly in Italy and was never fully reconciled to the union that had taken place between Austria and Hungary. His *Memories of My Exile* appeared in English in 1880. He was the father of Ferenc Kossuth (q.v.).

KOST, **Frederick W.**, American landscape painter: b. New York City, 1861; d. Brookhaven, Long Island, N. Y., Feb. 23, 1923. He studied at the National Academy of Design, New York City, and in Munich and Paris. In the New York Metropolitan Museum of Art is his *Frost Morning*; his *Southfield Marshes*. *Statens Islands* hangs in the Brooklyn Institute of Arts and Sciences; *On the St. John River*, N. B., is in the Pennsylvania Academy of Fine Arts, Philadelphia.

He was a member of the Society of Land-Painters, of the Brooklyn Society of Arts and Crafts, the Artists' Fund Society, the Society of American Artists, etc.

KÖSTER, ke'stèr, Hans, German dramatic poet: b. Kritzow, 16 Aug. 1818; d. Ludwigslust, 6 Sept. 1900. He studied philosophy, studied in Italy and France and then took up residence in Berlin. He moved later to Weimar, then to Villa Priorsberg, near Neuzelle, Brandenburg, for agricultural work. His dramatic works treat mostly of historical events, show lively action and frequently capital characteristics; the earlier ones obtained the approval of the critics but did not reach the public. Later dramas of his, often performed, are 'Ulrich von Hutten' (Breslau 1846); 'Hermann der Cherusker' (Berlin 1861); 'Der Kurfürst' (ib. 1851), etc. He also wrote the tales 'Liebe und Leiden' (Breslau 1852) and 'Erlebnisse und Gestaltungen' (Berlin 1872). The publications entitled 'König Wilhelm und sein Heer' (Berlin 1868) and 'Kaiser Reich' (ib. 1872) are collections of his patriotic poems. He also wrote biblical poetry such as 'Hiob' and 'Die Bergpredigt' (Bielefeld 1885). His Prusso-German sentiments, so richly expressed in a number of political pamphlets, were also made manifest in his speeches as member of the North German and Reich of the first German Reichstag.

KOSTER, Hans Ludwig Raimund von, German admiral: b. Schwerin, 29 April 1844. He studied at the Werder Gymnasium, Berlin, and was candidate for cadet in the navy (1859), then appointed to active service on the coast. He was promoted to lieutenant before reaching his 20th birthday and made a cruise around the world (1878-80). He was chief of staff in the admiralty (1884-87) and rear-admiral in 1889. At the end of 1893 he was director of the Department of Marine, and, until 1896, was in command of the first squadron, then chief of the Baltic marine station. In 1899 he was inspector-general of marine, in which capacity he commanded the squadrons of manoeuvre. In 1900 he was given the rank of hereditary noble and appointed to the command of the active battle fleet (1903). He was raised to the rank of great admiral in 1905, retiring from active service (1906) to devote his time to the advancement of the "greater navy" proposition. In 1908 he was elected president of the German Navy League. His title of nobility made him a member of the Prussian House of Lords.

KOSTER, or COSTER, Samuel, Dutch dramatist: b. Amsterdam, 16 Sept. 1579; d. some time after 1662. He obtained his medical diploma (1610) and practised as a physician at Amsterdam where he was director of the infirmary till 1662. He founded, after Italian style (1617), the *Duytsche Academie*. He is especially noted for his delightful comedies 'Tijl van der Schilden' (1613) and 'Teeuwis de boer' (1612), which show up his talents in drawing up a plot and giving color to the characters. He wrote tragedies, such as 'Ithys'; 'Iphigenia' (1617), a political satire, 'Isabella,' after Ariosto, in conjunction with J. J. also 'Polyxena' (1619). His works are published in collective form, edited by R. M. Olewijn (Haarlem 1883). Consult Rossing, who wrote his biography (Leyden 1875).

KÖSTLIN, kèst-lèn, Christian Reinhold, German poet and criminologist: b. Tübingen, 29 Jan. 1813; d. there, 14 Sept. 1856. He practised law in Stuttgart (1836) but settled in Tübingen as private teacher (*docent*). He was writing, in the meanwhile, poems, also stories for the *Novellenzeitung*, all under the name of C. Reinhold, which were published collectively later (Bremen 1847-48). The success in his career as a jurist was established by his 'Die Lehre vom Mord und Totschlag' (Stuttgart 1838) and 'Wilhelm I, König von Württemberg, und die Entwicklung der württembergischen Verfassung' (ib. 1839). He was given the degree of professor (1851). His most important works on criminal law in his later life are 'Der Wendepunkt des deutschen Strafverfahrens im 19 Jahrhundert' (Tübingen 1849); 'Die geschwornen gerichte' (Leipzig 1851); 'Geschichte des deutschen Strafrechts' (Tübingen 1859).

KÖSTLIN, Julius, German Protestant theologian: b. Stuttgart, 17 May 1826; d. 12 May 1902. He traveled in England and Scotland (1849) and was appointed vicar at Stuttgart (1850), soon to become private instructor (*Repetent*) at the theological seminary at Tübingen. He was given the appointment of professor of Theology at Göttingen (1855), Breslau (1860) and Halle (1870), and retired in 1896. He wrote, among other numerous works, 'Luthers Lehre von der Kirche' (Stuttgart 1854); 'Das Wesen der Kirche, beleuchtet nach Lehre und Geschichte des Neuen Testaments' (ib. 1854); 'Luthers Theologie' (ib. 1863); 'Martin Luther, sein Leben und seine Schriften' (Elberfeld 1875; 5th ed., Berlin 1903); 'Luthers Leben,' a very popular work (Leipzig 1882; 9th ed., 1891); 'Der Glaube und seine Bedeutung für Erkenntnis, Leben und Kirche' (Berlin 1895); 'Christliche Ethik' (Berlin 1898). He was editor of *Theologischen Studien und Kritiken* from 1873. Consult 'J. Köstlin, Autobiographie' (Danzig 1891).

KÖSTLIN, Karl Reinhold, German theologian and aesthetic: b. Urach, 28 Sept. 1819; d. Tübingen, 12 April 1894. He studied philosophy and theology at Tübingen and Berlin but soon devoted himself solely to philosophy. He was given the degree of assistant professor (1857) and made professor of aesthetics and art history (1863). He wrote 'Der Lehrbegriff des Evangeliums und der Briefe Johannis' (Berlin 1843); 'Der Ursprung der synoptischen Evangelien' (Tübingen 1853); 'Goethes Faust, seine Kritiker und Ausleger' (Tübingen 1860); 'Hegel in philosophischer, politischer und nationaler Beziehung' (Tübingen 1870); 'Ästhetik' (Tübingen 1863-69), his chief work; 'Richard Wagners Tondrama: Der Ring des Nibelungen' (Tübingen 1877); 'Ueber die Schönheits begriff' (Tübingen 1879); 'Geschichte der Ethik' (Tübingen 1887); 'Prologomena zur Ästhetik' (Tübingen 1889).

KOSTOMAROV, kö'stō-mā'rōf, Nikolai Ivanovitch, Russian historian: b. Ostrogosz, Government Veronezh, 1817; d. Saint Petersburg, 19 April 1885. He studied in the Kharkov and Moscow universities and entered a dragoon regiment (1836) but obtained his release and was appointed teacher (*docent*) at the Kiev University (1846). He was dismissed the following year for his activities in Little

Russian literature, and joined his friends Szewczenko, Kulisz, and Bitozerski in a secret literary society to resuscitate the Slavophile propaganda. His action caused his arrest and deportation to Saratov. After the death of Czar Nicholas I in 1855 he obtained permission to travel abroad, and in 1859 he was appointed professor of history at Saint Petersburg. On the closing of the university in 1861 in consequence of a students' riot he retired to take up literary work alone, assuming the *nom-de-plume* of Jeremija Halka. His poetic works were written in Little Russia vernacular and were published in Odessa (1875) in a collective issue, the dramas, *Sawa Czalyi* (1838) and *Ukrainskie ballady* (1839), among them.

KOSTROMA, kŭ-strŭ-mà, river, USSR., a tributary of the Volga, which rises in the north-eastern part of the Kostroma Region and flows in a south-southwesterly direction; 200 miles of its length of 250 miles are navigable. At its junction with the Volga stands the city of Kostroma.

KOSTROMA, city, USSR, in the north central part of European Russia, capital of the Kostroma Region. It is located on the left bank of the Volga at its confluence with the Kostroma River, 45 miles east-northeast of Yaroslavl. The richly adorned Cathedral of the Assumption dates from the 13th century. The city is an important center of the lumber industry, and manufactures include cotton and flax textiles, leather goods, machinery, and woodenware. Kostroma is said to have been founded in 1152 by Juri Dolgoruki. During the 13th century it lay within the Rostov-Suzdal principality, and in the 15th century it passed to the Moscow principality. The Tatars plundered Kostroma on several occasions. Pop. (1939) 121,205.

KOSTRZYN, kôs'chĭn, city, Poland, in Poznan Department, on the Oder at its confluence with the Warta, 53 miles east of Berlin; formerly in Brandenburg, Prussia, it was known as KŮSTRIN or CŮSTRIN. The Prussian crown prince, later Frederick the Great, was held prisoner here by his father during 1730-1732. An important industrial city, its manufactures include potato meal, machinery, furniture, cigars, and stamped and enamel work. Kostrzyn developed from a fishing village in the 13th century, and it became of importance after 1535, when a fortress was built here for the protection of Berlin. It was bombarded by the Russians in 1758, and it was held by the French from 1806 until 1814. In 1945, during World War II, heavy fighting occurred in the vicinity between the Germans and advancing Russians. With the end of the war that year, the Potsdam Conference assigned the city to Poland. Pop. (1939) about 20,000.

KOSZALIN, kô-shà'lĕn, city, Poland, capital of a province of the same name, 5 miles from the Baltic Sea and 88 miles northeast of Szczecin (Stettin); formerly within Pomerania, Prussia, it was named KŌSLIN, or CŌSLIN. It contains a notable 14th-century Gothic church. The city is an important railroad junction. Brewing, fish preserving, and paper manufacture are the principal industries. Koszalin was founded about 1188 and was incorporated as a town in 1266. The Russians captured it in 1945, during World War II. With war's end the Potsdam Conference

of that year assigned it to Poland. The province of Koszalin, formerly part of the Szczecin department, was constituted in 1950. Pop. (1946) 31,937.

KOSZTA, kô'stâ, **AFFAIR**, in United States history, a diplomatic incident. A Hungarian refugee to the United States, named Martin Koszta, obtained his "declaration of intentions" or first citizenship papers in 1850. He visited Smyrna (Izmir) in 1853 and was seized by members of the crew of the Austrian brig *Huza* on June 21. Capt. Duncan Nathaniel Ingraham (q.v.) of the American war sloop *Saint Louis* under instructions from the United States minister at Constantinople (Istanbul), demanded his release. Hearing that the prisoner was to be transported secretly to Trieste, Captain Ingraham set a time limit to the surrender and made preparations to attack the *Huza* on July 2. The prisoner was surrendered. The Austrian government issued to the European powers a note of protest against the American procedure. Baron Hülsemann, Austrian chargé d'affaires at Washington, asked Secretary of State William Learned Marcy (q.v.) "to disavow the conduct of its agents . . . hasten to call them to a severe account, and tender to Austria a satisfaction proportionate to the magnitude of the outrage," claiming the arrested man to be an Austrian citizen and the action of Ingraham violative of international law. Marcy's reply, within a month, declared Koszta was not a citizen of Austria but "that Koszta, when seized and imprisoned, was invested with the nationality of the United States, and they therefore had the right, if they chose to exercise it, to extend their protection to him." The other powers ignored the Austrian protest.

KOTA BAHRU, kô'tâ bâ'rōō, city, British Malaya, capital of the state of Kelantan. Federation of Malaya, on the right bank of the Kelantan River 6 miles from its mouth. It is served by the east coast branch of the Malayan Railway. In December 1941, during World War II, the Japanese made a landing here in their drive down the Malay Peninsula to Singapore. Pop. (1947) 22,765.

KÖTHEN or **CÖTHEN**, kŭ'tĕn, city, many, on the Ziethe 12 miles southwest of Dessau. The 15th-century cathedral, in the Gothic style, has notable old glass paintings and a fine organ. Until 1853 Köthen was the capital of the former duchy of Anhalt-Köthen; the former ducal residence contains a library, picture gallery, art museum. There are lignite mines in the vicinity. Machinery and metal goods are manufactured. The city dates back to the 10th century, when it was a Slav settlement. It was chartered as a town in the 12th century; and in 1603 it became the capital of the principality, later duchy, Anhalt-Köthen. Pop. 26,595.

KOTKA, kô't'ká, seaport, Finland, capital of Viipuri department, in the Gulf of Finland on the island of Kotka at the mouth of the Kymmen River. Cellulose, paper, woodenware, and sugar are manufactured. Kotka is an important shipping point for lumber. Pop. (1946) 22,476.

KOTO, a Japanese musical instrument, having a long box, larger at one end than the other, and with a convex top over which 13 silk

strings are strung and fastened tightly at each end, each string having a bridge. To tune the instrument it is necessary to move the bridges. The instrument is played with both hands like a harp.

KOTONU, kô-tô-nôô', or **COTONU**, principal seaport of Dahomey, French West Africa. See **COTONU**.

KOTOR, kô'tôr, Yugoslavia, a seaport of Dalmatia, 38 miles southeast of Dubrovnik (Ragusa), formerly known as **CATTARO**. Industries include lacemaking and the manufacture of cheese. It contains a Roman Catholic cathedral dating from the 9th century, and Serbian Orthodox churches and monasteries. Kotor, known to the Romans as *Ascrivium*, was subject to several nations in turn during the Middle Ages. It was acquired by Austria in 1707, and Italy in 1805, and during 1807-13 it formed part of the French Empire. The Congress of Vienna restored it to Austria in 1814, and after the First World War it was incorporated in the newly-established kingdom of Yugoslavia. Pop. (1940) 4,985.

KOTOW, kô-tow', or **KOWTOW**, a Chinese form of obeisance; a ceremony in which an inferior, kneeling, touches his forehead to the ground.

KOTZEBUE, kôt'së-bôô, **August Friedrich Ferdinand**, German dramatist; b. Weimar, May 3, 1761; d. Mannheim, March 23, 1819. He held official positions at Saint Petersburg and Weimar, but in 1800 was arrested and sent to Siberia. Recalled by Paul I, he became director of the German theater in Saint Petersburg. After the death of the emperor he returned to Weimar, where he attacked Johann Wolfgang von Goethe (p.v.) and other great German authors of the romantic school. During 1803-05 he lived in Berlin, assisting in editing *Der Freimütige*, an antimantic journal. In 1813, as Russian councillor of state, he followed the military headquarters, constantly writing to excite the nations against Napoleon. From 1817 he lived in Germany as a secret Russian agent; he was assassinated by a student for ridiculing the Burschenschaft (q.v.) movement. His plays included *Menschenhass und Reue*, and *Die deutsche Kleintadler*. Besides plays, he wrote biographical and historical works, novels, sketches, and stories.

KOTZEBUE, **Otto von**, Russian navigator; second son of A. F. Kotzebue (q.v.): b. Reval, Dec. 30, 1787; d. there, Feb. 15, 1846. In his 17th year he accompanied Krusenstern on his voyage round the world. In 1815 he was appointed to the command of the ship *Rurik*, destined to ascertain the practicability of a northeast passage in the direction of Bering Strait. He discovered several groups of islands in the Pacific, and a large sound on the southeast of Bering Strait, which now bears his name; and returned after a three years' absence. The results of the voyage were published in a work called *A Voyage of Discovery in the South Sea and to Bering's Strait in Search of a Northeast Passage* (1821-23). In 1823 he was commissioned by the Emperor Alexander to make a third voyage round the world. He returned in 1829 publishing the results of the voyage in a work which has been of great importance to hydrography, particularly that of the Pacific, *A New Voyage Round the World* (1830).

KOTZEBUE SOUND, an inlet on the northwest coast of Alaska, north of Seward Peninsula. The Noatak and Kobuk rivers drain into it. Otto von Kotzebue discovered the inlet in 1816.

KOUMISS. See **KUMISS**.

KOUROPATKIN, or **KUROPATKIN**, kôo-rû-pât'kyin, **Aleksei Nikolaevich**, Russian soldier; b. March 17/29, 1848; d. Pskov, Russia, Jan. 22, 1925. He was trained at the Imperial Military College and studied in various European countries; in 1874 became a member of the general staff of the army; in 1876-1877 assisted Mikhail Skobelev in the conquest of Khokand, Turkestan, and its reorganization as the territory of Ferghana, and in 1877-1878 won high distinction in the Russo-Turkish War by his services at Plevna (Pleven) and the Chipka Pass. In 1878 he was made colonel and in 1878-1879 was chief of the Asiatic bureau of the general staff. In 1880-1881 he was in Middle Asia, where he commanded the main detachment against the Tekke Turkomans, and, after a forced march of 600 miles across the desert, stormed Geok-Tepe, by which victory he won his greatest reputation. He was made major general in 1882, lieutenant general in 1890, governor of the Transcaspian district and commander of the troops in that district in 1890, and minister of war in 1898. In 1901 he became general of infantry. At outbreak of hostilities with Japan in 1904 he was sent to command the Russian forces in the Far East. After the Battle of Mukden he was superseded by Gen. Nikolai Linevich, under whom he continued in service as commander of the First Manchurian Army. His failure in the Far East was attributable, in part at least to his position of subordination to the viceroy. In World War I he fought on the western front of Russia before becoming adviser to the emperor when the latter succeeded the Grand Duke Nicholas in chief command of the army. He was appointed governor general of Turkestan in August 1916, but was dismissed after the February Revolution the following year. He retired to Pskov, where he taught school.

Among his writings was *The Russian Army and the Japanese War*, translated into English in 1909. Extracts from his diaries were published by the Soviet government in *Red Archives* (1922, 1924 and 1935).

Consult D. Story, *The Campaign with Kuropatkin* (London 1904).

KOUSSEVITZKY, kôo-së-vîts'kî, **Serge (Alexandrovitch)**, American orchestra conductor; b. Vyshni Volochek in the Tver (now Kalinin) Region, Russia, July 26, 1874; d. Boston, Mass., June 4, 1951. He studied and then taught the double bass at the Philharmonic Music School in Moscow and subsequently became the leading player of that instrument in the Moscow Imperial Orchestra. Under Czar Nicholas II he was director of State Symphony Orchestras (1917) and of Grand Opera in Moscow (1918). With the assistance of his wife, Natalya Konstantinovna Koussevitzky, he established in 1909 the Russian Music Publishing Company, the profits of which went to young composers. Later he acquired the Guthrie Music House for a similar purpose. Between 1910 and 1917 he and his orchestra and celebrated soloists toured extensively through Russia, on three occasions journeying 2,300 miles down the Volga River to present concerts before widely scat-

tered audiences hitherto denied such privilege. Early in his career as conductor he led the orchestra of the Berlin Hoch Schule, and later he conducted in other European countries, in Britain making guest appearances with the London Symphony Orchestra and with that of the British Broadcasting Corporation. Leaving Russia in 1917 after the October Revolution, he made his home first in Paris, and there, in 1921, he instituted the "Concerts Koussevitzky." He was invited to the United States in 1924 to become conductor of the Boston Symphony Orchestra, and in the course of the next two decades he developed it into one of the most perfect symphonic ensembles in the world. The string tone of the orchestra, in particular, was considered to be unequalled. At Lenox, Mass., he established in 1934 the Berkshire Music Center, and its symphonic festivals soon became an outstanding feature of American musical life. In 1940 he organized the Berkshire Music School in conjunction with this institution.

KOVALEVSKI, kü-vü-lyäf'skü-ï, **Aleksandr Onufriyevich**, Russian embryologist: b. Dünaburg, Nov. 7, 1840; d. St. Petersburg, Nov. 22, 1901. He studied in Heidelberg and Tübingen, and after traveling, became professor at the St. Petersburg University and member of the Academy of Science. He rendered useful service by his researches into the formation of the ascidians (1866-1871) and Amphioxus (1867) and evolved the first acceptable hypothesis of the relationship between vertebrates and invertebrates. He did similar research work effectively on nearly all branches of the animal kingdom; among them was his useful work on the anatomy of the Balanoglossus (1860), on the formation of the Ctenophora coelenterates (1865), the embryology of worms and arthropods (1871). Other work concerned the organs of secretion and lymph-cysts of the vertebrates, brachiopods and coelenterates (1874). He wrote *Anatomie des Balanoglossus delle Chiaje* (1866); *Entwicklungsgeschichte der einfachen Ascidien* (1866); *Entwicklungsgeschichte des Amphioxus lanceolatus* (1867); *Coeloplana metschnikovii* (1882); *Etude sur l'anatomie de l'Acanthobdella peledina* (1896).

KOVALEVSKI, Sonya (Russ. name SOFYA VASIL'YEVNA KOVALEVSKAYA, nee KORVINA-KRUKOVSKAYA), Russian mathematician and writer: b. Moscow, Jan. 15, 1850; d. Stockholm, Feb. 10, 1891. After marrying in 1868 Vladimir O. Kovalevski, brother of Aleksandr Onufriyevich Kovalevski (q.v.), to legalize her as a college student, she studied mathematics at Heidelberg. Unable, because of her sex, to enter the University of Berlin, during 1871-1874 she studied privately under Karl Weierstrass, and in 1874 she was granted a degree at Göttingen for a notable thesis on partial differential equations. From 1884 until her death she was professor of higher mathematics at Stockholm University.

For her solution of the problem "how to perfect in one perfect point the theory of a movement of a solid body around an immovable point," she received the Prix Bordin of the Paris Academy, raised from 3,000 to 6,000 francs for the extraordinary production. In the realm of light literature she wrote such works as *Der Privatdozent* (1877), a description of German university life; *Der Kampf ums Glück* (with Anna

Leffler, 1887); *Kindheitserinnerungen* (1890); and *Die Nihilisten* (1896).

KOVNO. See KAUNAS.

KOVROV, küv-rôf', town, Russia, on the Klyazma River, in the Vladimir Oblast of the RSFSR, 150 miles east of Moscow. It is a railroad center, and has manufactures of cotton goods, motorcycles, excavators, and machine tools. It was chartered in 1778. Pop. (1939) 67,163.

KOWEIT. See KUWAIT.

KOWLOON, kou'loön', also **KAULUN** or **KAULUNG**, town, China, on the west shore of Kowloon Peninsula, separated from Victoria or Hong Kong Island by the Hong Kong harbor across which it maintains ferry service. It is a part of the British colony of Hong Kong. Great Britain obtained cession of Kowloon Peninsula, an area of three square miles, in 1860, and was granted a lease in 1898 for the adjoining New Territory, with adjacent islands, Deep Bay and Mirs Bay, amounting to 356 square miles. The city extends into the New Territories and has an urban area of 18 square miles.

In conjunction with Victoria, Kowloon is a free port, and has manufactures of cotton goods, cement, rubber shoes, cigarettes, and rope, and several sugar mills. A railroad connects the port with Canton. A 1949 estimate of Greater Kowloon, which includes Kowloon proper on the peninsula and New Kowloon in the New Territories, gives the population as 700,000. Kaitak, Hong Kong's international airport, is located on the outskirts of the city.

KOZLE, kôzh'lě (Ger. COSEL or KOSEL), town, Poland, in Opole Province, on the Oder River, 25 miles south-southeast of Oppeln (Opole). Before 1945 it was a part of Germany, in Upper Silesia. It has sugar refineries, paper and flour mills, and metalworking plants. Pop. (1939) 13,337; (1946) 8,277.

KRAAL, kräl, an Afrikaans word used in South Africa to designate a native village whose circular huts are surrounded and protected by a circular hedge or stockade. The word may be derived from an African source, but it is probably taken from the Spanish *corral* or the Portuguese *curral*, meaning a cattle pen or fold. Hence the term is used to define the folds or enclosure built for the protection of cattle.

KRAFFT-EBING, kräft'ä'bīng, **BARON Richard von**, German neurologist: b. Mannheim Aug. 14, 1840; d. Mariagrun, near Graz, Dec. 2, 1902. He studied psychology at Heidelberg, Zurich, and Prague, and after service in the Franco-Prussian War he directed an electrotherapeutic clinic at Baden-Baden. Successively, he was appointed to professorships of psychology at Strasbourg (1872), Graz (1873), and Vienna (1880). In 1902 he returned to Graz. His *Lehrbuch der Psychiatrie auf klinische Grundlage* (1872, 1880) and his *Lehrbuch der gerichtlichen Psychopathologie* (1875) determined the place of psychiatry in clinical science. In neurology also he did great service by his work on epilepsy, hemiplegia, and paralysis agitans. His *Psychopathia sexualis* (1886; 17th ed. 1924) was translated into seven languages.

KRAFT or **KRAFFT**, kräft, Adam, German sculptor and architect: b. probably in Nürnberg, between 1455 and 1460; d. Schwabach, near Nürnberg, between Dec. 13, 1508 and Jan. 10, 1509. His earliest known work was a statue of Sebald Schreyer in the church of St. Sebaldus in Nürnberg. He carved monuments in the Church of St. Mary the Virgin for the Pergenstorff family (c.1498) and in the chapel of the Church of St. Aegidius for the Landauer family (1503). One of his greatest achievements was the tabernacle in the Church of St. Lawrence (1493-1496), a magnificent example of late Gothic architecture. After 1500 his style was characterized by a greater formal simplicity, as in the seven reliefs (*Stations of the Cross*, 1505-1508) near the entrance of St. John's Church (six were moved to Busch-Reisinger Museum of Germanic Culture, Harvard University) and the 15-figure group in Holzschuher chapel of the same church.

KRAGUJEVAC or **KRAGUYEVATS**, krā'gōo-yē-vāts, city, Yugoslavia, in central Serbia, 60 miles south-southeast of Belgrade. was the cultural and political center of Serbia in the 19th century, and served as the Serbian capital (1818-1839) under Miloš Obrenović I. Its industries include munitions, vegetable canning, and flour milling. When Kragujevac oblast was established in 1949, the city became its capital. Pop. (1948) 32,528.

KRAIT, krīt, a venomous snake (*Bunarus coerules*), related to the cobras, which inhabits India and Ceylon and causes more deaths than any other snake. It reaches a length of four feet or more, has smooth scales, a ridge along the spine, no hood, and is bluish or brownish black with highly variable bars and markings of yellow and white.

KRAKATAU or **KRAKATAO**, krā-kā-tōu' (also KRAKATOA, krā-kā-tō'ā; local Malay name RAKATA, rā-kā'tā), volcanic island, Indonesia, in the Sunda Strait between Sumatra and Java, located in 6° 9' south latitude and 105° 27' east longitude. An eruption of its volcano (alt. 2,667 feet), which began on May 20, 1883, was climaxed on the night of August 27-28 by one of the most terrific seismic explosions ever recorded. The sound of the concussion was heard in Australia, the Philippines, and Japan. An estimated cubic mile of rock was thrown into the air, two thirds of the island, including the volcano's crater, disappeared, and the resulting sea waves caused the death of about 36,000 persons in western Java. Clouds of volcanic dust were diffused through the atmosphere the world around and gave rise to brilliant sunsets, observed as far away as England. As a result of the explosion the boundaries of the Sunda Strait were altered, islets disappeared, and new ones were formed.

Subsequent eruptions occurred in 1927, when an underwater explosion formed a new crater, Anak Krakatau (Child of Krakatau), and again in 1933. Further volcanic activity was reported in 1950 and 1952. Never inhabited, Krakatau since 1927 has been a low island measuring about three miles across, with a crater lake 820 feet in diameter and 230 feet deep.

KRAKEN, krā- or krā'kēn, a term, of Norwegian origin, applied to a fabulous sea-monster, generally assumed to be a gigantic squid.

KRAKOW, krā'kōōf (Eng. CRACOW, krā'kō; Ger. KRAKAU, krā'kou), province, Poland, bounded on the east by the province of Rzeszów, on the west by that of Katowice, and on the south by Czechoslovakia. Its area of 6,710 square miles before World War II was diminished to 5,901 square miles in 1945, when part of its territory was transferred to the newly formed Rzeszów province. Through the province of Krakow run the Vistula and its tributary the Dunajec rivers, and near its southern border is the Ryśy (alt. 8,212 feet), the highest peak in Poland. Mineral products of the province include salt, iron, lead, and coal, and its chief agricultural products are grains, potatoes, and livestock. Among important industries are lumbering and the manufacture of machinery, railroad cars, chemicals, and wood and metal products. Its capital is Kraków; other important urban centers are Tarnów, and Nowy Sącz; and resort centers are Zakopane, Krynica, and Rabka. Pop. (1946) 2,005,779.

KRAKOW (Eng. CRACOW; Lat. CRACOVIA), city, Poland, capital of Kraków Province, situated at an altitude of 720 feet on the Vistula River, 155 miles south-southwest of Warsaw. Besides being one of the cultural centers of Poland, Kraków is a rail junction and commercial center, manufacturing railroad cars, boilers, agricultural machinery, chemicals, clothing and paper, and processing food, tobacco, and hemp. Nowa Huta (pop. c. 100,000), a metallurgical center which grew up on the sites of the nearby villages of Mogiła and Pleszów after 1949, became a part of Kraków in 1951. Among the city's many historic monuments are St. Florian gate and Barbican fortress, which were part of the walls originally surrounding the city; the 13th century cloth hall, which contains the Polish National Art Museum; and the Gothic cathedral (rebuilt in the 14th century) and royal castle, both situated on the Wawel, a hill in the eastern part of the city. The city also has many richly decorated churches, such as the Church of St. Mary, which contains a carved altar executed by Veit Stoss (q.v.), and, in the outskirts, two prehistoric mounds, one of which is named after Prince Krak, the traditional founder of the city. Noted for its intellectual life, Kraków has many learned societies and academies, and is the seat of the University of Kraków (also called Jagiellonian University), Poland's oldest university, founded 1364.

History.—Inhabited from the 4th century by the Vistulans, a western Slav tribe, Kraków came under the domination of Bohemian princes in the 10th century, before Boleslav I (called Chrobry, "the Mighty," r. 992-1025) proclaimed himself king of Poland and established a bishopric there (c.1000). Kraków was the capital of Poland from 1138 to 1609, when the royal house was transferred to Warsaw, but continued to be the coronation and burial place of the Polish kings until 1764. In 1795 it passed to Austria in the Third Partition of Poland and from 1809 to 1815 was part of the Grand Duchy of Warsaw created by Napoleon. By the provisions of the Congress of Vienna (1815) it became the Republic of Kraków, a protectorate of Russia, Prussia, and Austria, but in 1846 it reverted to Austria as the Grand Duchy of Kraków. After World War I the city was included in the reconstituted independent Polish state and became the capital of the newly created Kraków Prov-

ince. It was captured by the Germans in World War II (1939), but suffered relatively little damage, although the university was pillaged. Kraków was taken from the Germans by the Russians on Jan. 19, 1945. Pop. (1950 est.) 347,500.

KRANACH, Lucas. See **CRANACH.**

KRAPP, George Philip, American educator: b. Cincinnati, Ohio, Sept. 1, 1872; d. New York, N. Y., April 21, 1934. After graduation from Wittenberg College in 1894 he attended Johns Hopkins University, receiving his Ph.D. in 1899. He taught English at Horace Mann School in New York City for one year, and for 10 years from 1897 taught both at Teachers College and at Columbia University. The University of Cincinnati called him from 1908 to 1910, but he returned to Columbia and continued there as professor of English throughout his life.

His greatest contributions were made in the field of the English language as spoken and written in the United States, a study in which he pioneered with such books as *Modern English, Its Growth and Present Use* (1909) and *The Rise of English Literary Prose* (1915). He argued against pedantic purism in the use of language holding that standards of speech should be based on current cultivated usage rather than on arbitrary rules.

KRASICKI, krä-sëts'kë, Ignacy, Polish poet: b. Dubiecko, Poland, Feb. 3, 1735; d. Berlin, Germany, March 14, 1801. Of aristocratic Roman Catholic parentage, he studied at the Jesuit College in Lwow (Lvov), and lived in Rome from 1759 to 1761. He was appointed bishop of Ermeland (1766), and after its annexation by Prussia (1772), he became a Prussian citizen and spent much time in Berlin and Potsdam where he enjoyed the favor of Frederick the Great. He was made archbishop of Gniezno (Gnesen) in 1795. Under the influence of the French cosmopolitanism of the court of Frederick the Great, Krasicki wrote volumes of *Bajki i przypowieści* (*Fables and Tales*, 1779), *Satyry* (*Satires*, 1779), and *Listy* (*Epistles*, 1780-1784), which display his polished, epigrammatic style.

KRASINSKI, krä-sën'y'-skë, COUNT Zygmunt, Polish poet and playwright: b. Paris, France, Feb. 19, 1812; d. there, Feb. 23, 1859. At the age of 12 he began to write historical novels, influenced by those of Sir Walter Scott, and at 15 matriculated at the University of Warsaw. His greatest work, *Nie-boska Komedya* (*The Undivine Comedy*, published 1834) was written when he was only 21 years old. This drama (English translation by H. E. Kennedy, 1924), depicting the social and cultural conflicts within bourgeois society, was followed by another prose drama, *Irydion* 1836; (*Iridion*, English translation by Florence Noyes, 1927), a story laid in ancient Rome, representing allegorically the tragedy of Poland. Deeply concerned with the philosophical problems of modern man as well as with the political plight of Poland, Krasinski presented his messianic philosophy based on love and the Hegelian "kingdom of the Spirit" in the poems *Przedświt* (*The Dawn*, 1843) and *Psalmy przyszłości* (*Psalm of the Future*, 1845) and in several prose writings.

KRASNODAR, kräs'nô-där, territory, USSR, covering 32,800 square miles in the Russian SFSR, from the Sea of Azov and the Black Sea north to the lowlands of the Kuban River, which rises in the Caucasus Mountains and with its affluents the Belaya and Laba rivers drains the territory. The variegated agricultural products of the area range from wheat, sunflowers, barley, tobacco, and corn in the north, to cotton, hemp, and soybeans near the Sea of Azov, and citrus fruits, oil, wines, and tea in the subtropical climate of the Black Sea littoral. Rice is grown in marshy sections of the lower Kuban River and, in the mountain meadows and valleys of the Caucasus, livestock is raised.

Oil is found near Krasnodar, its capital, and Neftegorsk, and is refined at Krasnodar, Armavir, and Tuapse, the latter two places being the chief petroleum export points. The leading industries of the territory are the processing of agricultural and petroleum products and fishing. Krasnodar Territory was formed in 1937 out of the former Azov-Black Sea Territory. Pop. (1946 est.) 3,000,000.

KRASNODAR (formerly **EKATERINODAR, ê-kât-ër-ë'nô-där**), city, USSR, capital of Krasnodar Territory, in the southeastern part of the Russian SFSR, 160 miles south of Rostov. It is situated in a fertile lowland on the Kuban River, and is a processing and distribution center for such agricultural products as vegetable oils, alcohol, canned fruits, starch, tobacco, and flour. An important industrial city, Krasnodar produces steel and heavy machinery, and has railroad shops and oil refineries. A regional museum, a research institute, and several colleges are located in the city, which is one of the leading cultural centers of the Caucasus.

Krasnodar was founded in 1794 as Ekaterinodar (Catherine's Gift) under Catherine II and in 1920 was renamed Krasnodar (Red Gift). During World War II the city suffered heavy damage and was occupied by the Germans from August 1942 to February 1943. Pop. (1939) 203,946.

KRASNOVODSK, kräs'nô-vötsk, city USSR, in western Ashkhabad oblast (region) Turkmen SSR, 320 miles west-northwest of Ashkhabad. A seaport on the Caspian Sea and the western terminus of the Trans-Caspian Railroad, it is a shipping center for oil, cotton, grain, timber, and salt, and has petroleum-refining and food-processing plants. Founded in 1869, Krasnovodsk developed with the extension of the railroad (1895) and from 1939 to 1947 was the capital of the former Krasnovodsk oblast. Pop. (1939) 23,600.

KRASNOYARSK, kräs'nô-yärsk, territory USSR, in Russian SFSR, covering an area of 928,000 square miles, from the Sayan Mountains in the north to the Kara and Laptev seas of the Arctic Ocean. Through its terrain, comprise chiefly of forests and tundra, the Yenisei River flows northward into Yenisei Bay, and in the south the Trans-Siberian and South Siberian railroads cross the territory east and west. Natural resources include forests, and gold, coal, and graphite deposits; its chief exports are lumber, gold, and the agricultural products from the southern part (which contains 94 per cent of the population). It includes the administrative

isions Taimyr National Okrug (District), Evenki National Okrug, and Khakass Autonomous Oblast. Its chief industrial centers are its capital, Krasnoyarsk, and Kansk, Achinsk, and Minusinsk, and its chief seaport is Igarka, on the lower Yenisei River. The territory was formed in 1934. Pop. (1946 est.) 2,100,000.

KRASNOYARSK, city, USSR, the capital of Krasnoyarsk Territory, 2,100 miles east of Moscow, on the Yenisei River in Russian SFSR. Located on the Trans-Siberian Railroad, Krasnoyarsk is a transportation and industrial center, trading extensively in timber, grain, furs, and tea. Gold, iron, copper, and manganese are mined in the vicinity. Its industries include lumber and flour milling and the manufacture of heavy machinery, cement, paper, and textiles. The city is also a cultural center, with scientific research institutes, a regional museum, and schools for doctors and teachers.

Krasnoyarsk was founded by Cossacks in 1628 as a fort, Krasny Yar, and later in the century was attacked several times by the Tartars and other tribes. In 1822 it became the capital of the Yeniseisk government. With the completion of the Trans-Siberian Railroad in 1898 the city grew rapidly. Its population fell off between 1917 and 1925, but the mining and industrial development of the surrounding area under the Soviet Five-Year plans stimulated its growth and during World War II a new industrial section was built up on the east bank of the Yenisei. Pop. (1946 est.) 300,000.

KRASZEWSKI, krā-shěf-skē, Józef Ignacy, Polish novelist and historian: b. Warsaw, Poland, July 28, 1812; d. Geneva, Switzerland, March 19, 1887. After graduating from the University of Wilno (Vilna) in 1832 he devoted his life to literary activity. His works comprise over 500 volumes and include novels describing epochs in Polish history; political novels written under the pseudonyms Kleophans Pasternak and Bolesławita; long poems, such as *Anafielas* (1840-1843), an epic of the history of Lithuania; culture romances, such as *Moritur* (1874-1875) and *Resurrecturi* (1876); dramas; and critical writings. He published the periodical *Athenaeum* (1841-1851) and in 1860 edited the Warsaw *Gazeta Codzienna* (*Daily Gazette*). Obligated to leave Warsaw for political reasons, he went to Dresden in 1863, where he remained, with several interruptions, until imprisoned for espionage in 1884. He was released the next year, and traveled in Europe as an exile until his death.

KRAUS, krous, John, German-American educator: b. Nassau, Germany, Feb. 2, 1815; d. New York, N. Y., March 4, 1896. After gaining prominence in Germany as an advocate of the educational principles of Johann Heinrich Pestalozzi and Friedrich Froebel, he went to America in 1851 and began to establish schools and lecture extensively on education. He was one of the first to publish articles in the United States on Froebel's kindergarten theories. In 1857 he accepted a position under Henry Barnard, the first United States commissioner of education. Through Kraus' influence, a committee of the National Education Association, set up in 1873, endorsed the educational principles of Froebel not only for the kindergarten but also for the higher grades in American elementary schools.

His wife, MARIA KRAUS-BOELTÉ (b. Hagenow, Germany, Nov. 8, 1836; d. New York, N. Y., Nov. 1, 1918) was an educator in her own right, having studied and taught in Germany and England before going to the United States in 1872. They were married in 1873 and together organized a training school for kindergarten teachers in New York City. They were co-authors of *The Kindergarten Guide* (2 vols., 1877).

KRAUS, Karl, Austrian satirist, critic, and poet: b. Jicin, Czechoslovakia, April 28, 1874; d. Vienna, Austria, June 15, 1936. After several years as a successful journalist in Vienna, he founded the periodical *Die Fackel* (*The Torch*) (1899), in which he presented critical essays varying from humorous satires to bitter polemics against moral and intellectual hypocrisy, against the "journalistic" approach to literature, and, after the outbreak of World War I, against militarism. During the war he also began to publish his poems *Worte in Versen* (1916-1930). His monumental anti-war drama *Die letzten Tage der Menschheit*, (*The Last Days of Mankind*), appeared between 1918 and 1922.

KRAUSE, krou'zē, Ernst Ludwig (pseudonym CARUS STERNE), German scientific writer: b. Sulcin (Zieloniz), Poland, Nov. 22, 1839; d. Eberswalde, Prussia, Aug. 24, 1903. Settling in Berlin in 1866, he contributed to the propagation of the new Darwinian theory of organic evolution and was associated with Charles Darwin and Ernst Heinrich Haeckel in the publication of the monthly *Kosmos* (1877-1882). His chief work was *Werden und Vergehen. Entwicklungsgeschichte des Naturganzen* (Berlin 1876).

KRAUSE, Karl Christian Friedrich, German philosopher and writer: b. Eisenberg, Thuringia, Germany, May 6, 1781; d. Munich, Bavaria, Sept. 27, 1832. He studied philosophy under Johann Gottlieb Fichte and Friedrich Wilhelm Joseph von Schelling at Jena, where he became *privat-dozent* in 1802. He subsequently taught at Dresden (1805), Berlin (1814), Göttingen (1824), and Munich (1831), but was unable to obtain a professorship. His philosophy, a modification of pantheism which he called *Panentheism*, was based on a conception of the universe as contained in God; the goal of mankind he conceived as a universal union (*Menschheitsbund*), the beginnings of which he saw in Freemasonry. Although overshadowed by his greater German contemporaries, he nevertheless exerted some influence on 19th century philosophy. His most important works are *Vorlesungen über das System der Philosophie* (1828) and *Vorlesungen über die Grundwahrheiten der Wissenschaft* (1829).

KRAUSKOPF, krous'köpf, Joseph, German-American rabbi and humanitarian: b. Ostrowo, Prussia (now Ostrów, Poland), Jan. 21, 1858; d. Atlantic City, N. J., June 12, 1923. He immigrated to America at the age of 14, and after graduating from the Hebrew Union College, Cincinnati, in 1883, he held a rabbinical post in Kansas City before moving to the Congregation Keneseth Israel in Philadelphia, where he served as rabbi from 1887 until his death. A practical idealist, he was a leader in Reformed Judaism in

the United States. His outstanding achievement was the foundation in 1896 of the National Farm School, a nonsectarian agricultural institution at Doylestown, Pa., inspired by the advice of Tolstoy, whom he had visited in Russia in 1894. He was director of the Jewish Commission in the Federal Food Administration (1917).

KRAUTH, krôth, **Charles Porterfield**, American Lutheran theologian: b. Martinsburg, Va., March 17, 1823; d. Philadelphia, Pa., Jan. 2, 1883. The son of Charles Philip Krauth (1797–1867), the first president of Pennsylvania (now Gettysburg) College, he graduated at the age of 16 from the institution headed by his father, and after his ordination in 1842, held ministries successively at Canton and Baltimore, Md., Shepherdstown, Martinsburg, and Winchester, Va., and Pittsburgh and Philadelphia, Pa. He is remembered for his leadership of the conservative Lutheran movement which grew up in America with the immigration of many German Lutherans in the middle of the 19th century. Departing from the platform of the General Synod, Krauth adopted the dogmas of an earlier European Lutheranism and stated his theological position in *The Conservative Reformation and Its Theology* (1871). He was editor in chief of *Lutheran and Missionary* (1861–1867) and the *Lutheran Church Review* (1882–1883) and served on the faculties of the Lutheran Seminary at Mt. Airy, Philadelphia (1864–1883) and of the University of Pennsylvania (1868–1883).

Consult Spaeth, Adolph, *Charles Porterfield Krauth*, 2 vols. (New York 1898–1909).

KREFELD, krä'fêlt, city, Germany, since 1945 in the State of North Rhine-Westphalia, 12 miles northwest of Düsseldorf. Krefeld is the principal locality in Germany for the manufacture of silk and mixed silk goods, which was begun there in the 17th and 18th centuries by Protestant and Mennonite refugees from Jülich and Berg. The city is an industrial center, with railroad shops, boiler works, machine shops, iron foundries, chemical works, distilleries, sugar refineries, soap works, tanneries, and paper mills. A textile school was founded in the city of 1885.

Krefeld dates from 1166 and received its charter in 1373. The chief industry was linen weaving until the city came into the possession of Prussia in 1702, when the silk industry received a monopoly from the government and became predominant. The city was occupied by the French during the Napoleonic wars. In 1929 Krefeld was combined with nearby Uerdingen and was known as Krefeld-Uerdingen am Rhein until 1940. During both World Wars the city was bombed by the Allies. Pop. (1950) 170,482.

KREHBIEL, krä'bêl, **Henry Edward**, American music critic: b. Ann Arbor, Mich., March 10, 1854; d. New York, N. Y., March 20, 1923. After receiving a public school education, he was associated with the *Cincinnati Gazette* (1874–1880) and the *New York Tribune* (1880–1923) as music critic. His most important work was the English edition of Alexander Wheelock Thayer's *Life of Ludwig van Beethoven*, which he published, from Thayer's original material, in 1921. His other publications include *Studies in the Wagnerian Drama* (1891); *Chapters of Opera* (1908); *A Book of Operas* (1909); *The*

Pianoforte and Its Music (1911); and *Afr American Folksongs* (1914).

KREISLER, krîs'lêr, **Fritz**, Austrian-American violinist and composer: b. Vienna, Austria, Feb. 2, 1875. At the ages of 10 and 12 respectively, he won first prize and a gold medal for his skill as a violinist at the Vienna Conservatorium, where he worked under Joseph Hellmberger and Leopold Auer (q.v.); and the first grand prize at the Paris Conservatoire, where he studied violin under Joseph L. Massart and then under Clément P. L. Delibes (q.v.). In 1888–1889 he successfully toured the United States with Moriz Rosenthal, pianist, making his debut at Boston on Nov. 9, 1888. On his return to Vienna he was unsuccessful in obtaining a position in the Vienna Philharmonic Orchestra, and abandoned music to enter successively upon medical studies at Vienna; the study of painting in Paris and Rome; and a brief period of service in the Austrian Army. After resuming his playing, he made brilliant return debuts in Berlin (1899) and London (1901), which with his triumphal American tours of 1901 and 1903 won him the lofty position he has since maintained on the international concert stage. Wounded while serving in the Austrian Army during World War I, Kreisler went to the United States in 1911, remaining until 1924. Following German annexation of his native Austria in 1938, he became a French citizen. In 1943 he acquired American citizenship.

Long considered the world's leading concert violinist, Kreisler is also a well-known composer who has greatly enriched the violin literature of the world. His longer works include a comic opera, *The Marriage Knot* (1919); two operettas, *Apple Blossoms* (1919) and *Sissi* (1933); Quartet in A Minor (for strings); an Concerto in G Major (for violin). The most popular of his shorter compositions, principally for violin, include *Liebesfreud*, *Liebeslied*, *Romance*, *Scherzo*, *Caprice*, *Berceuse Romantique*, *Rondino* (on a theme by Beethoven), *Capriccio Viennois*, and *Tambourin Chinois*.

KREITTMAYR, krît'mîr, **Baron Wigula Xavier Aloys von**, Bavarian jurist and statesman: b. Munich, Bavaria, Dec. 14, 1705; d. there, Oct. 27, 1790. He practiced law in Wetzlar, the Supreme Court, and was made Aulic councillor (1725) at Munich and a baron of the empire in 1745. Four years later he became vice-councillor of the Privy Council and a minister of the cabinet. The most important branch of Bavarian law were codified by him in works appearing from 1751 to 1756.

KRELING, krä'ling, **August von**, German sculptor and painter: b. Osnabrück, Germany, May 23, 1819; d. Nürnberg, April 23, 1876. His first important work was the ceiling decorations at the Hanover Court Theatre. In 1853 he was appointed to reorganize the Nürnberg School of Art, during which work he painted the *Coronation of Ludwig of Bavaria* in the Maximilianeum, Munich, and drew the cartoons for the pictures of German emperors, as well as a cycle of pictures from the traditions of Karl der Grosse. For his great service in advancing the arts and crafts he was honored with the civil Order of Merit. He modeled the colossal bronze statues of Prince Heinrich of Reuss, at G

of Kepler, at Weil, and a great fountain which was presented to Cincinnati by Mr. Proctor.

KRELL, or **CRELL**, Nikolaus, Saxon chancellor and anti-Lutheran reformer: b. Leipzig about 1551; d. 9 Oct. 1601. He studied law and was appointed Aulic councillor at Dresden and secretary to the Elector Christian, who, on accession to the throne (1586), made him ivy councillor and (1589) chancellor. His position to the orthodox Lutheran Church leaning toward Calvinism brought the hatred of the citizens and members of the court. By his introduction of a new catechism and edition of the Bible with his Calvinistic glossary he brought about his downfall when Friedrich Wilhelm von Weimar succeeded the deceased Christian. Involved in the meshes of law he was imprisoned and after much litigation between the higher powers of the different states he was finally condemned to death and was executed at Dresden. Consult Richard, 'Der kurfürstliche sächsische Kanzler Nikolaus Krell' (Dresden 1859); Brandes, 'Der Kranzler Krell, ein Opfer des Orthodoxismus' (Leipzig 1873).

KREMENETZ, krém'yě-nyěts, Poland, a town in the county of Wolyn (Volhynia) situated on the Ikva River and a branch of the South-West Railway. It has six churches, is the seat of the chief magistracy of the Radzivilov customs division. Above the town on a sandstone cliff are the ruins of an ancient castle. The town dates back to the 8th century, belonging formerly to the principality Vladimir as included in Poland; it was fortified by Poland I but was captured (1648) by a body of Cossacks in revenge for persecution on account of their fidelity to Poland. It is a very fertile district. Its population is about 10,000, with about one-third Jews.

REMENTCHUG, krém'én-choog', Russian district town in Poltava in the Ukraine, situated on the Dnieper River and junction of railways. It has an iron railway bridge, Greek-Catholic churches, three churches of Protestants, a Lutheran prayer house, three synagogues, a high school, girls' progymnasium, a bank; also numerous manufactures as mills, tobacco factories, etc. It does considerable trade in grain and wood and holds annual markets. The town was founded in 1765 and was, from 1765-89, the capital of New Russia. It has a suburb across the river called Kow. Together they have about 98,895 inhabitants.

KREMERS, kré'mérz, Edward, American pharmacist: b. Milwaukee, Wis., 23 Feb. 1865. Studied at the University of Wisconsin, receiving the degree Ph.G. (1886) and B.S. (1887), and Ph.D. at the Göttingen University (1890). He was appointed instructor of pharmacy at the University of Wisconsin (1890-92), professor of pharmaceutical chemistry and director of a course in pharmacy from 1892, and director of the Pharmaceutical Experiment Station from 1913. He was editor of the *Pharmaceutical Review* (1896-1909), scientific editor of *Midland Druggist and Pharmaceutical* (1909-10), coeditor *Standard National*, etc. In collaboration with Gildebrand and Hoffmann, he compiled 'The Ole Oils' (1900; 2d ed., 1913).

KREMLIN, a Russian citadel, especially the citadel of Moscow (q.v.). It lies in the centre of the city, and contains the former royal edifices and churches, particularly the former residence of the emperor.

KREMELITZ, Marie (Mite), German author: b. Greifswald, 4 Jan. 1852. She married and moved to Bucharest (1875), where she became acquainted with the Rumanian queen (Carmen Sylva). She removed to Berlin (1897) and settled there. In collaboration with Carmen Sylva she published the 'Rumänischen Dichtungen' (3d ed., translation Bonn 1889), and under the pseudonym Dito und Idem the following novels: 'Aus zwei Welten' (Leipzig 1884; 7th ed., Bonn 1901); 'Astra' (Bonn 1886; 6th ed., 1903); 'Feldpost' (ib. 1887); and the tragedy 'Anna Boleyn' (ib. 1886); also 'In der Irre' (ib. 1888), and 'Rache, und andre Novellen' (ib. 1889), stories. Individually she wrote 'Rumänische Skizzen' (Bucharest 1877); 'Rumänische Märchen' (Leipzig 1882); 'Carmen Sylva ein Lebensbild' (Breslau 1882); an extensive biography, 'Carmen Sylva' (Leipzig 1903). She also wrote the novel 'Ausgewanderte' (Bonn 1890), and the stories 'Elina: Zwischen Kirche und Pastorat' (Breslau 1895); 'Sein Brief' (ib. 1896); 'Herr Baby' (ib. 1901); 'Mann und Weib' (ib. 1902); 'Fatum' (ib. 1903). Under the pseudonym George Allan she wrote 'Fluch der Liebe' (Leipzig 1880), and other stories as well as the novels, 'Aus der Rumänischen Gesellschaft' (ib. 1881), and 'Ein Fürstenkind' (ib. 1883). Died. 1916.

KREMELITZ, krém'nits, or **CREMELITZ**, Czechoslovakia, a town (called in Hungarian Körömczébánya), in the county of Bars, in a deep valley surrounded by lofty hills, 15 miles northeast of Schemnitz. It consists of the town proper, surrounded by walls, and containing two ancient churches and a castle; and of several large suburbs, in which are almost all the public buildings. There are some old churches, a Franciscan monastery of the 17th century, a mint, hospitals, etc. The manufactures consist of paper, delft-ware, vitriol and cinnabar; but the prosperity of the town depends chiefly on the gold and silver mines in the vicinity. Pop. 4,515.

KREMS, kréms, Austria, a town on the confluence of the rivers Krems and Danube and on two branches of the State Railway, one of which crosses the Danube here on a great bridge. It is the official seat of the district and has four churches, a town-hall with archives, monuments to Joseph II and General Schmidt, an obere gymnasium, upper high school, trade school, teachers' institute, wine and fruit industrial schools, Piarist College, lady-teachers' institute, city museum, theatre, savings bank, etc. Among its various manufactures are breweries and mustard, cognac, preserves, chocolate, coffee-substitute, machine, mill, garden tool and other factories. Pop. 14,384.

KREMSIER, Czechoslovakia, a town in Moravia, 37 miles from Brünn by rail, situated in the fertile Hanna region, on the March and on two railways. It is the official seat of the district, has a Collegiate church, archbishop's palace, finished 1711, library, great park and menagerie, a German and a Czech obere gymnasium, German and Czech national upper high school, archie-

piscopal boys' seminary, teachers' institute, agricultural school, etc. Its manufactures consist of machinery, iron foundries, two malt factories, two breweries, sugar factory, electric works, and it does considerable trade in barley, fruit, cattle, etc. In 1110 it was one of the estates of the 1,063 newly formed bishoprics of Olmütz by the purchase of the Olmütz Count Otto, and obtained town rights through Bishop Bruno (1266) and Bishop Theodor (1290), becoming the episcopal residence. It was besieged and stormed by the Swedes, in 1643, and burned. During the 1848 insurrection the Reichstag was held here. Pop. 16,528, chiefly Czechs.

KRENNERITE. A rare mineral consisting of telluride of gold and silver in orthorhombic form. Composition variable (AuAg) Te. Carries 43.86 per cent of gold and a very small amount of silver. Occurs in mines of Cripple Creek, Colo.

KRESTOVSKI, krěs'tōf'skī, V., the pseudonym of Nadezhda Dmitrievna Khvoshtchinskaya, one of the most noted of Russian women novelists and writers: b. Ryazan, 1825; d. 1889. See *Khvoshtchinskaya, Nadezhda Dmitrievna*.

KRETSCHMAR, krěch'mär, August Ferdinand Hermann, German musician: b. Olbernhau, 19 Jan. 1848. He graduated at the Leipzig Conservatory, was appointed (1876) bandmaster at the opera house at Metz, became (1887) music director at the Leipzig University, and was called to Berlin (1904) where he became professor of the history of music for the state. He wrote numerous choral and organ pieces and many monographs, essays on the lives of noted musicians, etc. His 'Führer durch den Konzertsaal' (3 vols., Leipzig 1887-90) is highly praised. Died, Berlin, 10 March 1924.

KRETSCHMER, krěch'mër, Edmund, German musician and composer: b. Ostritz, 31 Aug. 1830; d. 1908. He was a pupil of Julius Otto and Johann Schneider at Dresden and was appointed court organist there (1854). He became (1872) instructor of the royal Kapellknabeninstituts and was leader of a number of choral unions. In 1892 he was given the degree of professor. He first became favorably known as a composer by his opera 'Die Folklunger' (1874) that was followed by 'Heinrich der Löwe' (1877); 'Der Flüchtling' (1881); and 'Schön Rothraut' (1887). He also wrote several Masses and other church compositions, also profane choir pieces, such as 'Pilgerfahrt,' 'Festgesang,' 'Sieg im Gesang.' His 'Geisterschlacht,' written for a man's choir with orchestra, won a first prize. Consult Schmid, O., 'Edmund Kretschmer' (Dresden 1890).

KRETSCHMER, Paul W., German philologist: b. Berlin, 2 June 1866. He studied at the Luisenstadt gymnasium and the Berlin University, becoming private teacher (*docent*) there (1891). He became assistant professor (1897) at Marburg University, and professor (1899) at the Vienna University. He traveled in Greece (1896-1901) and wrote 'Griechischen Vasenschriften' (1894); 'Einleitung in der Geschichte der griechischen Sprache' (1896); 'Entstehung der Koine' (1900); 'Die heutige Lesbische Dialekt' (1905). He was editor of *Glotta*, a periodical in the Greek and Latin

languages, from 1907 and is member of the Imperial Academy of Science of Vienna.

KRETZER, krět'sër, Max, German novelist: b. Posen, 7 June 1854. He went to Berlin at an early age and worked in various capacities as a factory laborer, a house painter, etc. He met with an accident, and during the period of convalescence began to write, becoming one of the most popular German novelists for a time. His naturalistic novels dealing with the common people of Berlin are interesting pictures of contemporary life. The best are 'Die beiden Genossen' (1880); 'Die Betrogenen' (1882); 'Im Sturmwind des Sozialismus' (1883); 'Meister Timpe' (1888).

KREUTZER, kroi'tsër, Konradin, German composer: b. Messkirch, Baden, 22 Nov 1780; d. Riga, 14 Dec. 1849. He studied law at first but produced an operetta (1800) that was played while he was a student at Freiburg, and he then undertook the study of counterpoint (1804) under Albrechtsberger at Vienna. He was appointed bandmaster (1812) at Stuttgart and (1817) filled the same position for Count von Fürstenberg in Donaueschingen. In 1822 he returned to Vienna where he became bandmaster of the Kärntnerthor Theatre, after the successful production of his opera 'Libussa.' He filled the same post successively at the Josephstädter Theatre (till 1840), then at the Cologne Stadttheatre (till 1846), when he returned to Vienna. He wrote 30 operas of which only 'Nachtlager zu Granada' (1834) and Raimund's 'Verschwender,' for which he wrote the score, have remained popular. On the other hand his male choruses are still pieces with the *Verein*. A monument to his memory has been erected in his birthplace.

KREUTZER, Rodolphe, French violinist and composer: b. Versailles, 16 Nov. 1766; d. Geneva, 6 Jan. 1831. He studied the violin under Anton Stamitz, under whom he was perfected and was able to appear in public in his 13th year. He became solo-violinist in the Italian theatre orchestra (1790) where he produced his first opera, 'Jeanne d'Arc' in the same year, to be followed by 39 other dramatic works such as 'Paul and Virginia'; 'Lodoiska' (1701); 'Werther' (1792), etc. Following a tour through Italy and Germany (1796) he was appointed teacher of the violin at the Paris Conservatoire. In 1801 he took Rodé's place as solo-violinist at the Grand Opera, and (1817) became its bandmaster till his retirement in great honor (1826). Of his many compositions only those for the violin have survived to this day in popularity, among which his '40 Etudes ou Caprices' is a necessity in training a violinist. Beethoven dedicated his 'Kreutzer Sonata' to him.

KREUTZER SONATA, the popular title of Beethoven's Sonata for piano and violin in A, op. 47, dedicated to his friend R. Kreutzer, and played first in 1803. Leo Tolstoy, the Russian reformer and author, used the title for one of his novels, published in 1880, in which he placed the modern conventional marriage in a hideous light. It caused bitter debate for a rather prolonged period.

KREUTZNACH, kroi'ts'nagh, Prussia, tract town and popular bathing resort in the jurisdiction of Coblenz, situated on the Na-

ver, 37 miles south-southeast of Koblenz. Nearby is the ruin of an ancient Roman fortification, the Heidenmauer or "heathen wall." The town was chartered in the 13th century and ceded to Prussia in 1814. It is well known for its baths and mineral springs. Among the leading manufactures are leather, tobacco, combs, glass and arble goods. Pop. (1939) 30,246.

KRIEGSPIEL, krēks'shpēl, German name for the "war game" in which metal counters representing opposing forces are moved about on a large-scale map. It is often used to instruct students of military tactics. A form of *Kriegspiel* is also played on chess boards.

KRISHNA, krish'nā, in Hindu mythology the eighth avatar, or incarnation of Vishnu and the most important deity in the Hindu pantheon. In the *Bhagavad-Gita* (*Song of the Blessed One*), Krishna is represented as a great spiritual teacher revealing the doctrine of *bhakti* or "loving devotion." However, in popular legend he is less ad-

Krishna, the eighth incarnation of Vishnu. Associated with the cowherd figure—the cowherd, he was originally a hero of the Rajput tribe and became one of the most widely worshiped deities of the Hindu religion.



mirable as he dallies with the Gopis, daughters of the cowherds. At the close of the 15th century two Indian teachers, the reformer Chaitanya and Vallabha, established sects in worship of Krishna. Vallabha's sect was notorious for its indecencies but in the 19th century Swāmi Narayan purified the cult and acquired numerous followers. See also AVATAR; HINDUISM; INDIA—Religion and Philosophy.

KRISTIANSAND or **CHRISTIAN-SAND**, kris'chān-sānd, seaport in southern Norway, capital of Vest-Agder County, located on a peninsula on the Skagerrak about 160 miles southwest of Oslo. Founded in 1641 by Christian IV of Norway and Denmark, the port was ravaged by many fires until 1892 when the greater part was rebuilt in brick. Today it is one of Norway's chief harbors. It is also a bishop's seat and has a 17th century Gothic cathedral. Fish and lumber are among its leading exports. Other industries are carried on in its flour mills, sawmills, dairies, and woolen mills. During World War II the German cruiser *Karlsruhe* was sunk off Kristiansand before the seaport was captured by the Germans who occupied it from 1940 to 1944. Pop. (1946) 24,343.

KRISTIANSTAD, kris'chān-stād, seaport, Sweden, capital of the Province of Kristianstad, located on the Helge River about 10 miles from the Baltic Sea in the center of a rich agricultural district. It was founded in 1614 by Christian IV of Norway and Sweden. Granite and wood pulp head the list of its exports. In addition to flour and woolen mills, it has sugar refineries and distilleries. Pop. (1949) 23,779.

KRISTIANSUND or **CHRISTIAN-SUND**, kris'chān-sōōnd, seaport in western Norway, capital of Møre og Romsdal County, located about 90 miles west-southwest of Trondheim. The town, which is built on four islands enclosing a harbor, was founded in the 18th century and has since become a leading center for the export of fish, butter and lumber. Shipbuilding also is an important industry. Retreating Germans inflicted heavy damage on the town in 1944 during World War II. Pop. (1946) 13,152.

KRIVOI ROG, kryi'voi'rōk', city, USSR, located in the Dnepropetrovsk Region of the Ukraine, on the Ingulets River about 80 miles southwest of Dnepropetrovsk. This young industrial center owes its rapid growth to a strategic location in the midst of the Soviet Union's chief iron-mining region and it is also near the coal fields of the Donets Basin. In 1940 the area produced some 19 million tons of iron, and reserves are estimated at well over a billion tons. During World War II the Germans occupied the city and mines from 1941 to 1944. Aside from iron and steel plants the city has mills and chemical works. Pop. (1939) 197,621.

KROEBER, krō'bēr, Alfred Louis, American anthropologist: b. Hoboken, N.J., June 11, 1876. He received his A.B. from Columbia University in 1896 and his Ph.D. in 1901. The same year he was appointed instructor in anthropology at the University of California at Berkeley, serving as professor from 1919 to 1946. Since 1948 he has been visiting professor of anthropology at Columbia University. Mr. Kroeber has gone on many expeditions in pursuit of his special fields, the North American Indians and the archaeology of Mexico and Peru. His publications include *Handbook of the Indians of California* (1925); *Cultural and Natural Areas of Native North America* (1939); *Configurations of Culture Growth* (1944); *Anthropology*, new rev. ed. (1948).

KROGH, krōg, August (in full SCHACK AUGUST STEENBERG), Danish physiologist: b. Grenaa, Denmark, Nov. 15, 1874; d. Copenhagen, Sept. 13, 1949. Receiving his doctorate in 1903 from the University of Copenhagen, Krogh subsequently served there as lecturer (1908 to 1916) and until 1945 as professor of zoophysiology. In 1920 he received the Nobel Prize for physiology and medicine, for his researches dealing with the activities of the capillaries, particularly their regulative effect on the conveyance of blood to the muscles. Among his writings are *The Anatomy and Physiology of Capillaries* (1922); and *The Comparative Physiology of Respiratory Mechanisms* (1940).

KROL, crül, Bastiaen Jansen, colonial officer in New Netherland: b. Harlingen, Holland, 1595; d. Amsterdam, 1674. A velours worker by trade, he applied to the Dutch Reformed Church in Amsterdam for assignment abroad as comforter of the sick, a church office which provided for restricted divine services in the absence of a minister. In this capacity he sailed for New Netherland on Jan. 25, 1624. After a brief trip home to plead for ministers he returned to his post until 1626 when he was appointed commissary at Fort Orange (later Albany). In 1628 when the Rev. Jonas Michaëlius arrived to organize the first church in New Netherland, Krol was made a member of the consistory of the Reformed Dutch

Church inside the fort, on Manhattan. He crossed the ocean four or five times and acted as agent for Van Rensselaer in his manor. According to local tradition, during one winter, when provisions were scarce, he made a nourishing and palatable fried cake of flour and honey, which took its name from his, the cruller. The word is unknown in Holland and the pronunciation, very similar in the personal name and the actual thing, points to the probable origin of this American delicacy. On Van Twiller's arrival, in 1633, he was succeeded in the command of Fort Orange by Hans Jorissen Houten. On 28 Sept. 1645 he was at holy communion in the church in Amsterdam, Holland. A handsome memorial of this zealous and efficient pioneer has been erected in the Reformed Church edifice on Second avenue in New York. Consult Van Laer, the 'Van Rensselaer-Bower Manuscripts,' published by the State (1906); and Eckhoff, 'Bastiaen Jansz. Krol' (1910); Hofstede, 'Oost Indien Kerk-Zaken,' Rotterdam (1779), and 'Ecclesiastical Records of the State of New York' (1901).

KROLL, kröl, Wilhelm, German classical scholar: b. Frankenstein, Silesia, 7 Oct. 1869. He studied at Breslau, Berlin and Bonn, and, after a journey through Italy and Sicily, he entered the faculty at Breslau University, for classical philology. He was made professor at Greifswald (1899), Münster (1906) and Breslau (1913). He contributed numerous essays to the *Rheinisches Museum, Jahresberichte über die Fortschritte der Altertumswissenschaft, Glotta*, and the *Realenzyklopädie* of Pauly-Wissowa. He edited the 6th edition of Teuffel's 'Geschichte der Römischen Literatur' (1910-13). Among his other works are 'Antiker Aberglaube' (1897); 'Die Altertumswissenschaft im letzten Vierteljahrhundert' (1905); 'Geschichte der klassischen Philologie' (1908).

KROMAYER, krö'mi'ër, Johannes, German historian of ancient battles: b. Stralsund, 31 July 1859. He studied at Stralsund, Metz, Weissenberg and at the universities of Jena and Strassburg. He was appointed as teacher at the gymnasiums of Strassburg, Thann and Metz and then traveled through Italy and Greece (1887-88). In 1898 he became teacher at the Kaiser-Wilhelm University, Strassburg, but headed the scientific expedition in Greece and Turkey making research of the ancient battlefields (1900), and a similar expedition to Italy and North Africa (1907). He was appointed professor of ancient history at the Czernowitz University (1901) and filled the same post at Leipzig (1913-27). He wrote 'Antike Schlachtfelder' (1902-11); 'Roms Kampf um die Welt-herrschaft' (1912).

KRONBERG, krön'bär-g', Julius, Swedish painter: b. Karlskrona, 11 Dec. 1850. He studied at the Stockholm Academy of Art and gained a scholarship which permitted him to visit Düsseldorf, Paris, Munich and Rome. Upon his return he made his reputation with his biblical, mythological and historical pictures and became the leading colorist. His principal works are 'Death of Cleopatra'; 'David and Saul' (1885), in the Stockholm National Gallery; 'Romeo and Juliet'; 'Queen of Sheba'; 'Hypatia,' and the ceiling decoration of the Treppenhaus of the Royal Palace,

Stockholm (1890-92). He was elected member of the Stockholm Academy of Art (1881) and was made professor in 1885. Died, 17 Oct 1921.

KRONBERG, Louis, American painter: b. Boston, 20 Dec. 1872. He studied art at the Boston Museum of Fine Arts, the Art Students League, New York, and the Académie Julien, Paris. He is instructor of the portrait class of the Copley Society, Boston, received the silver medal of the Massachusetts Charitable Association and the Longfellow Traveling scholarship. His works have been exhibited at the Paris Exposition (1900) and are represented in the permanent collections of the Pennsylvania Academy of Fine Arts, Philadelphia ('Behind the Footlights'); New York Metropolitan Museum of Art ('The Pink Sash'); Boston Museum of Fine Arts, etc. Other works of his are in the private collections of the late Mrs. J. L. Gardner and F. Gair Macomber.

KRONECKER, krö'nëk-ër, Leopold, German mathematician: b. Liegnitz, 7 Dec. 1823; d. Berlin, 29 Dec. 1891. He studied at Berlin, Bonn, Breslau and took his degree (1845) in Berlin, when he returned to Liegnitz. He was made a member of the Berlin Academy of Science (1860) and held lectures at the university (1861). In 1883 he was made professor of mathematics of the university. He did exceptional service in the advancement and systematizing of algebra, and his graduates' feast essay, 'Grundzüge einer rein arithmetischen Theorie der algebraischen Grössen' (Berlin 1882), is of lasting value. He edited, at first with Weierstrass, later alone, Crelle's *Journal für Mathematik*, and commenced publishing the works of Lejeune Dirichlet at the request of the Academy. His 'Vorlesungen über Mathematik' were collected and published by Hensel and Netto in parts. The attempt he made to abolish irrational numbers and fractions reducing the science to whole numbers altogether is quite interesting. His biography by H. Weber is in *Jahresbericht der deutschen Mathematiker vereinigung* (Berlin 1893).

KRONES, krö'nës, Therese, Austrian actress: b. Freudenthal, 7 Oct. 1801; d. Vienna, 28 Dec. 1830. She became a member of the Leopoldstädter Theatre, Vienna (1821), after numerous engagements at provincial theatres. She learned greatly to improve her technique here through playing with Raimund, and, being of a lively and cheerful temperament, besides possessing graceful form, she became a great favorite in comedies and national plays. Several plays were written by her, such as 'Sylphide,' 'Nebelgeist,' etc. Her life figures in a novel by Bäuerle and in a play by Hauffner.

KRONSTADT, krön'stat, or CRONSTADT, Rumania, called by Rumanians Braşov, a town in the county of the same name in Transylvania, junction of four railways and most picturesquely situated. It is wedged in by a valley gorge of the Schuler Mountains, open only on the northwest. In front of the mouth of the gorge rises the Schlossberg, an old fortification or citadel dating back to 1554. The suburbs lie in small neighboring ravines, some built on terraces. In the middle of the old former fortified central city is the cathedral erected under King Sigismund (1385-1425) in imposing Gothic style, but serving now as

vangelical parish church and termed locally the "black church," on account of its charred walls; its gigantic organ contains 4,060 pipes. The triangular market place contains the ancient town-hall with its archives, erected 1420 and renovated (1770) in Baroque style; also the great Kaufhaus, built 1545. There is also a Catholic parsonage in Italian style, a Rumanian church in Byzantine style, besides several other Catholic, Evangelical and Grecian churches and a Reformed church. Other prominent public edifices are the Franciscan monastery, the treasury building, etc. There are monuments erected in memory of Honterus, one to Bishop Deutsch and the Millennium monument. Its population is about 41,056, of whom most are Magyars, the remainder Wallachs, Saxons, Greeks and other Orientals. Considerable commerce is carried on, the metal and wood industries being important. There are manufactures of earthenware, bed-coverings, cement, leather, paper, as well as sugar and petroleum refineries. Among its institutions are three gymnasiums, a state upper high school, trade academy, theatre, etc. This city suffered many times by war ravages; it was destroyed by the Tartars (13th century) several times, was conquered by the Turks (1421), becoming a frontier town of Protestantism in the days of Honterus the Reformer (16th century), it was plundered by Gabriel Báthori (1610), besieged in 1611 and 1612 General Caraffa executed (1688) many of its citizens and plundered the city; it was burned down the next year by the soldiery. In 1718 and 1755 the pest decimated its inhabitants; in 1849 it was besieged twice and the Russians took possession. Consult Herrmann-Meltzl, von, 'Das alte und neue Kronstadt' (Hermannstadt 1885-88); Filtzsch, 'Die Stadt Kronstadt und deren Umgebung' (Vienna 1886).

KRONSTADT, krōn'stāt, or **CRONSTADT**, Russia, a maritime fortress in the government of Leningrad, and about 25 miles west of that city. It stands in the narrowest part of the Gulf of Finland, opposite to the mouth of the Neva, on a height of the long, narrow, rocky island of Kotlin, forming, both by its position and the strength of its fortifications, the bulwark of Leningrad, and the most important naval station of the Soviet. It was founded by Peter the Great in 1710, and has spacious, regular streets, with many handsome houses; Greek, Lutheran, English and Roman Catholic churches; very large marine establishments, a navigation school, a naval arsenal, a non-foundry, a barracks, building-yards, docks, etc. The harbor consists of three separate basins — a merchant haven, capable of containing 1,000 ships; a central haven for the repair of ships of war, and the war haven, which, in addition to the other works of the place, is defended by the strong fort of Kronslot, built on two small adjoining islands. The chief disadvantage of Kronstadt as a port is the long period during which the harbor is blocked up by ice. The construction of a canal affording direct access by sea to Leningrad has diminished the trade of Kronstadt, which in consequence is declining as a commercial port. A revolt of the fleet personnel took place in May 1917. The local administration passed to the hands of the Committee of Workmen's and Soldiers' Delegates on 2 June 1917. The pro-

visional government at Leningrad was defied by the president of the local committee. Drastic measures were decided upon by the former, but the fall of the Kerensky government gave the malcontents and others an opportunity of escaping from the consequences of their acts. See SHIP CANALS; WAR, EUROPEAN.

KROPOTKIN, krō-pōt'kīn, **Peter Alexievitch**, Russian geographer and revolutionist: b. Moscow, 9 Dec. 1842; d. 1921. He was educated in the Corps of Pages at Saint Petersburg, and joining a regiment of Cossacks of the Amur went to eastern Siberia as aide-de-camp to the military governor of Transbaikalia, becoming later attaché for Cossacks' affairs to the governor-general of eastern Siberia. He was connected with a prison commission and strove to get some reforms introduced into Siberian convict prisons, but his efforts proved of no avail. From 1863 he devoted his energies to a scientific investigation of Manchuria and the neighboring parts of Siberia, and his work in this department gained him, in 1864, the gold medal of the Russian Geographical Society. In 1871 he was sent by the Geographical Society to Finland to study glacial phenomena. Arrested in 1874 for promulgating radical ideas of social reform, he was confined in the prison of the military hospital, from which he contrived to escape to England in 1876. In the following year he went to Switzerland, where he founded at Geneva an anarchist journal called *Le Révolté*, but in 1881 was expelled by the Swiss authorities on the demand of Russia. Returning to England in 1882, he wrote and lectured against the government of Alexander III. Having gone to France, he was arrested by the authorities and condemned (January 1883) to five years' imprisonment for participation in the International, but he was released in January 1886, in consequence of a strong appeal made by leading French and English savants. Afterward he lived in England, and engaged in literary work. He wrote much on scientific subjects and contributed to various encyclopædias. His separate publications include 'Paroles d'un Révolté' (1885); 'In Russian and French Prisons' (1887); 'La Conquête du Pain' (1888); 'L'Anarchie, sa Philosophie, son Idéal' (1896; Eng. trans. 1897); 'The State: its Part in History' (1898); 'Fields, Factories and Workshops' (1899); 'Memoirs of a Revolutionist,' first issued serially in *The Atlantic Monthly* (1899); 'The Orography of Asia' (1904); 'Ideals and Realities in Russian Literature' (1905); 'The Great Revolution, 1789-93' (1908); 'Terror in Russia' (1909). Prince Kropotkin was one of the ablest representatives and most eloquent exponents of that theory of society known as anarchist-communism. He was opposed to all societies based on force or restraint, and looked forward to the advent of a purely voluntary society on a communistic basis. He desired to see the division of labor, which is the dominant factor in modern industry, replaced by what he called the "integration of labor," and was a staunch believer in the immense possibilities of intensive agriculture. In 1901 he lectured at the Lowell Institute in Boston.

KROUT, Mary Hannah, American journalist and author: b. Crawfordsville, Ind., 3 Nov. 1857. She was educated at home, became asso-

ciate editor of the *Crawfordsville Journal* in 1881, and editor on the *Terre Haute Express* in 1882. As a special correspondent for leading newspapers, she spent several years in Hawaii, Europe, Asia, and Australasia. She died May 31, 1927.

KRUDENER, krü'dé-nér, BARONESS **Barbara Juliane von**, Russian pietist and novelist: b. Riga, Nov. 11, 1764; d. Karasu-Bazar, Dec. 25, 1824. The daughter of Otto von Vietinghoff, she was married in 1782 to Baron Burchard von Krüdener (d. 1802), Russian ambassador to Venice and Denmark, but separated from him in 1785. At Venice she was involved in a love affair with a young French officer, Count Charles Louis de Frégeville; it formed the basis for her novel, *Valérie* (Paris 1803), which was a literary sensation. She led a gay life in Germany, France, Russia, and Switzerland, and became a notable figure in Parisian society, her intimates including Madame de Staël, the Vicomte de Chateaubriand (qq.v.), and others. After her husband's death she left Paris and settled on the estates at Riga inherited from her father. In 1804, at the age of 40, she came under the religious influence of the Moravian Church (q.v.) through the ministrations of a shoemaker, and then studied the South German cult known as Chiliasm (q.v.). From this time she devoted herself ardently to a fantastic religion, her whole being becoming at last absorbed in mysticism and superstition. In 1808 she fell under the influence of the teaching of Johann Heinrich Jung-Stilling (1740-1817), who acquainted her with the cult of Emanuel Swedenborg (q.v.). For nonpolitical and religious reasons, in 1815 she suggested to Emperor Alexander I the title for the Holy Alliance (q.v.). During the years 1816-1817 she devoted herself to the welfare of the poor driven from Switzerland and the Black Forest by famine. She then gave herself up to the belief that she was a prophetess, claiming divine influence, with the result that she was expelled from Switzerland and Germany, and lost the friendship of Alexander I. In 1824 with her daughter and son-in-law, she went to the Crimea, where she died in the pietist colony of Princess Galitzin.

KRUEGER, krōō'gēr, **Walter**, United States military officer: b. Flatow, West Prussia, Germany, Jan. 26, 1881. Brought to the United States in 1889, he received a public school education in the Middle West, and on the outbreak of the Spanish-American War, when he was 17 years old, he enlisted as a volunteer from Madison, Ind., the home of his parents. He saw service in Cuba, and when mustered out in 1899 he re-enlisted as a regular soldier; assigned to the 12th Infantry, he took part in some of the engagements during the Philippine insurrection. Given a commission as 2d lieutenant in 1901, he was transferred to the 30th Infantry, and with his regiment he returned to the United States two years later. Besides doing regimental duty he graduated at the Infantry-Cavalry School, Fort Leavenworth, Kans., and the Army Staff College, and in 1908 was sent back to the Philippines for mapping duties. After his recall to the United States he was an instructor in languages at Fort Leavenworth until 1912. He served on the Mexican border in 1916, and the next year, after the United States entered

World War I, he became acting chief of staff of the 8th National Army Division, then stationed at Camp Taylor, Ky. In February 1918 he proceeded to France, where he served with the 26th Division and also the Tank Corps. Returning to the United States in 1919, he filled various posts at army schools and on the general staff, and by 1936 he had reached the rank of brigadier general. Promoted major general in 1939, he was sent to Fort Sam Houston, Texas, where he was given command of the 2d Division. Krueger commanded the 8th Army Corps in 1940, and the next year as temporary lieutenant general, he was sent to San Antonio, Texas, to take command of the Third Army. Engaged in training new formations at the time the United States became involved in World War II (December 1941), he was transferred to the Southwest Pacific early in 1943 to command the newly activated United States Sixth Army, then assembling in Australasia. Troops of his command invaded the island of New Britain (Solomon Islands) in December 1943 and Hollandia (Netherlands New Guinea) in April 1944, and on Oct. 20, 1944, he led the American ground forces which landed on Leyte, large island of the Philippines. In the course of the ensuing campaign to recapture the Philippine Islands, his Sixth Army invaded Luzon in January 1945, and in March the United States Senate approved his promotion to the rank of full general. Krueger continued to lead the Sixth Army until the surrender of Japan, directing 21 major amphibious operations in the course of an advance that had covered 4,500 miles. He commanded the Sixth Army in the southern section of the Japanese home islands until it was inactivated on Jan. 26, 1946.

KRUG, krōōg, **Julius Albert**, United States public official: b. Madison, Wis., Nov. 23, 1896. He worked his way through the University of Wisconsin, where he graduated in 1929 and secured a master's degree the next year, specializing in utilities management and economic engineering. Thereafter, he spent two years with the Wisconsin Telephone Company as business research analyst, and then was chief of the depreciation section of the Wisconsin Public Utilities Commission until 1936, when he was called to Washington, D.C., to join the Federal Communications Commission as an expert on public utilities. During 1937-1938 he reorganized the Kentucky Public Service Commission, and for the next two years he served as chief power engineer of the Tennessee Valley Authority. In 1941, when only 33 years old, he was summoned to Washington once more, now as chief power consultant of the Office of Production Management; he greatly aided in increasing the country's industrial efficiency after the United States was involved in World War II. When the OPM was reconstituted in 1942 as the War Production Board, Krug was appointed program vice chairman, and in February 1943 he was selected to head the Office of War Utilities. He also continued his work with the WPB, but relinquished both posts early in 1944 to enter the United States Navy. Commissioned with the rank of lieutenant commander and assigned to damage control duties, when his ship's sailing was delayed, naval officials sent him to Europe to make a survey of postwar utility needs in France and Italy. In August 1944 he was recalled from navy service.

ce to become acting chairman of the WPB, and when Donald Marr Nelson (q.v.) resigned the chairmanship in September, Krug was designated to succeed him. Continuing as chairman of the WPB until the war's end, he maintained the great output of munitions and also initiated many measures for conversion of industry to meet civilian requirements. The WPB was liquidated on Nov. 3, 1945, and Krug, who had efficiently directed its activities during its last year, was shortly after (Feb. 26, 1946) appointed by President Truman secretary of the interior, succeeding Harold L. Ickes. He resigned his Cabinet post Nov. 10, 1949, reportedly in disfavor with the president.

KRUGER, krōō'gēr, **Stephanus Johannes Paulus (Paul)**, South African statesman: b. Colesberg, Cape Colony, Oct. 10, 1825; d. Clarens, Switzerland, July 14, 1904. At the age of 10 he accompanied his parents northward in the Great Boer Trek (see UNION OF SOUTH AFRICA—History), crossing the Orange River into what later became the Orange Free State, and eventually settling in the future South African republic (Transvaal). His early manhood years were occupied with hunting and in the frequent tiring of the settlers with the Matabele and Zulus, and he helped to negotiate with Great Britain in 1852 the Sand River Convention, which acknowledged the independence of the settled communities in the Transvaal region. Kruger also had a part in framing, in 1855, the constitution of the South African Republic, which at first comprised a few of the Transvaal districts, and he was associated with the unsuccessful attempt of Marthinus Wessels Pretorius (q.v.) in 1857 to unite the Orange Free State with that young country. Kruger was elected commandant general of the forces of the South African Republic in 1864, and when, on the promise of a considerable measure of home rule, the country was annexed to Great Britain in 1877, he was appointed to a government post by Sir Theophilus Shepstone. He visited London twice with Dutch delegations which protested at the undertakings had not been fulfilled, and because he continued to demand retrocession of the country he was dismissed from British service in 1878. Following the war with Britain in 1880–1881 he was associated with Pretorius and Petrus Jacobus Joubert (q.v.) in negotiating restoration of Dutch independence north of the Vaal River, and in 1883 he was elected president of the reconstituted South African Republic. That same year he again went to London, and there he concluded in 1884 a convention which defined the future relationship between his country and Great Britain. Re-elected to the presidency in 1888, 1893, and 1898, Oom (uncle) Paul, as he was affectionately termed, was beset with the numerous difficulties arising from the discovery of rich reefs of gold on the Witwatersrand (q.v.) and the consequent influx of great numbers of *witlanders* (foreigners) to develop them. Bitterly resisting the ideas for reform held by the more liberal of his people, he clung stoutly to an administrative system already effete, grew steadily more corrupt. The foreign element, who paid the greater part of the taxes, had no voice in the expenditure or administration of affairs, and failure of the *witlanders* to secure the franchise and other concessions precipitated the abortive Jameson

Raid. (See JAMESON, SIR LEANDER STARR.) In June 1899 Kruger met Sir Alfred (later Viscount) Milner (q.v.) at Bloemfontein in an attempt to compose the differences between the countries respecting the status of the *witlanders*, and with failure of the conference the South African War (q.v.) soon ensued. At the age of 74 Kruger was too infirm to take the field, and with the assent of his government he left the country in 1900 after the British had captured his capital. Conveyed to the Netherlands aboard a Dutch cruiser, he sought in vain to enlist the aid of European powers and the United States on behalf of the hard-pressed republics. Most of his remaining years were passed at Utrecht, where, in 1902, he published *The Memoirs of Paul Kruger*. His body was returned to South Africa and interred at Pretoria on December 16, the national holiday termed Dingaan's Day which commemorates the defeat in 1838 of the great Zulu warrior Dingaan (q.v.) by a force of Dutchmen whose numbers included the 13-year-old Kruger.

KRUGER NATIONAL PARK, Union of South Africa, is the world's largest wild life sanctuary. Located in the northeast of the Transvaal province, bordering Mozambique, it is 200 miles long and 40 miles wide, the area being about 8,400 square miles. The park, comprising river-threaded gorges, open plains, and dense thorn-bush country, contains thousands of animals living in a natural state, notably lion, giraffe, elephant, hippopotamus, buffalo, zebra, and antelopes in wide variety. While hunting is forbidden, the park is open to visitors from June 16 to October 15 each year. Some 1,000 miles of roads and numerous rest camps make travel by automobile easy and comfortable. From Pretoria, the park may be reached by railroad eastward to Nelspruit, 222 miles distant from the capital. The park had its genesis in the Sabi Game Reserve, established in 1898 by President "Paul" Kruger (q.v.) of the South African (Transvaal) Republic; subsequently the area was considerably enlarged, and in 1926 it was renamed Kruger National Park.

KRUGERSDORP, Union of South Africa, a town of Transvaal Province, 20 miles northwest of Johannesburg. It is an important center of the goldmining industry of the Witwatersrand (q.v.); and manganese is also mined. Named for Stephanus Johannes Paulus (Paul) Kruger (q.v.), the town was founded in 1887; within its limits stands the Paardekraal Monument, recording the victory of the early Dutch migrants over the Zulu chief Dingaan (q.v.) in 1838. Pop. (1936) 54,810 (whites, 20,583).

KRUMBACHER, krōōm'bā'kēr, **Karl**, German Byzantine scholar: b. Kürnach, Bavaria, Sept. 23, 1856; d. 1909. From 1897 he was professor of medieval and modern Greek at the University of Munich. His principal work was *Geschichte der byzantinischen Literatur* (Munich 1891; 2d ed., 1897), covering from Justinian to the fall of the Eastern Empire, 1453. He founded the *Byzantinische Zeitschrift* (Leipzig from 1892), and *Byzantinische Archiv* (ib. from 1898).

KRUPP, krōōp, **Alfred**, German inventor and metallurgist: b. Essen, Prussia, April 26, 1812; d. there, July 14, 1887. He was a son

of Friedrich Krupp. In 1848 he assumed control of the Krupp steel and iron works at Essen. Three years later, after discovering a method of casting steel into large masses, he sent to the Great Exhibition at London a two-ton ingot of steel, the flawlessness of which astonished observers. In 1861 Krupp was manufacturing breech-loading rifles and heavy artillery pieces which were subsequently employed with devastating effectiveness by the Prussian Army in the Franco-Prussian War (1870-1871). In the 1860's he developed a new Bessemer steel for the production of improved weapons and railway wheels, and later devised a method of hardening armor plate. Although the Krupp plant also manufactured a wide variety of articles for peacetime use, its international fame rested primarily on the superiority of its armament production.

KRUPP, Friedrich, German manufacturer: b. Essen, Germany, July 17, 1787; d. there Oct. 8, 1826. In 1810 he established at Essen a small forge, and was able in 1812 to produce cast steel, the formula of which had been kept a secret in Great Britain. Around 1818 he built a plant comprising eight smelting furnaces, establishing on the same site the beginnings of the Krupp iron and steel foundries which later became internationally famous as the most extensive in the world. See also other articles under KRUPP.

KRUPP, Friedrich Alfred, German industrialist and financier: b. Essen, Germany, Feb. 17, 1854; d. there, Nov. 22, 1902. The son of Alfred Krupp (q.v.), he vastly extended the operations of the Krupp iron and steel works. Under his direction the Krupp enterprises absorbed other steel works at Rheinhausen and near Magdeburg; acquired coal and iron mines in Germany and iron holdings in Spain; purchased shipyards and engine shops in Kiel and Berlin; and operated a large fleet of steamers. Although he took little active part in the technical aspects of production, his skill in administration consolidated one of the world's most powerful industrial combines. He also extended the Krupp welfare program, initiated by his father to stem the tide of trade unionism among his workers. As early as 1861, Alfred Krupp had begun erecting low-cost housing for his employees, and before the end of the century, this enterprise, accelerated by his son, comprised numerous housing colonies and model villages at Essen and its environs. The Krupp organization also created substantial insurance, trust, pension, and other welfare funds for its employees and their families.

Friedrich Alfred was survived by his daughter Bertha (b. Essen, March 26, 1886), who immediately took charge of the Krupp concern and its 43,000 workers. On Oct. 10, 1906, she married Dr. Gustav von Bohlen und Halbach. He later assumed the name of Krupp, and in 1909 took over the direction of the Krupp combine. Dr. Gustav Krupp von Bohlen und Halbach (b. The Hague, Holland, Aug. 7, 1870) had been educated at Lausanne, Strasbourg, and Heidelberg, and had held diplomatic posts at Washington, Peking (now Peiping), and Rome. Under his management, during World War I, the Krupp factories gained a virtual monopoly of German iron and steel production, and employment in the works rose to 167,000 by 1918. One of the outstanding wartime technical achievements of the Krupp foundries was the construction of "the Big

Bertha," a new type of long-distance gun.

In the mid-1930's Dr. Krupp became one of Adolf Hitler's important supporters among the German industrialists, and after 1933 his industrial establishments became the center of the Nazi rearmament program. Although judged incompetent in 1945, because of senility, to stand trial as a war criminal, he was indicted of having "promoted the accession to power of the Nazi conspirators and the consolidation of their control over Germany." He died at Bluehnbad Castle, Salzburg, Austria, on Jan. 16, 1950.

His son, Alfred Krupp von Bohlen und Halbach, who had succeeded to the direction of the Krupp works in 1942, was tried as a war criminal at Nürnberg and was sentenced (July 1948) to imprisonment for 12 years. Against the son, the Nürnberg tribunal dismissed charges of aggressive war and conspiracy, but found him guilty of plundering occupied countries and of exploiting forced labor. All except one of the Krupp directors were sent to prison, and the entire properties, 70 per cent destroyed by bombings, were confiscated by the Allies. On Jan. 31, 1951, U.S. High Commissioner for Germany, John McCloy, commuted Alfred Krupp's sentence in Landsberg Prison to the time already served, released other Krupp associates, and ordered restoration of the Krupp properties.

Consult Berdrow, W., *The Krupps: 150 Years of Krupp History, 1787-1937* (Berlin 1937) and Menne, B., *Blood and Steel* (New York 1938).

KRUPSKAYA, krōp' skū-yū, Nadezhda Konstantinovna, Soviet public official and educator and wife of Nikolai Lenin (q.v.): b. St. Petersburg (now Leningrad), Russia, Feb. 23, 1869; d. Moscow, Feb. 27, 1939. At the age of 14 she worked as a tutor and then attended a woman's college. After becoming a Marxist she met Lenin in 1893 and joined him in revolutionary activities at St. Petersburg. Following her role in a strike in 1896 she was sent to three years' exile in Siberia, where at Shushenskoye in 1898 she was permitted to marry Lenin, also in exile. Her sentence expired after her husband had been released, and she joined him in Munich, Germany, in 1901. From then until 1917, as secretary of the Bolshevik section of the Social Democratic Party, she assisted him at various European capitals in directing the revolutionary movement within Russia. In April 1917, immediately following the outbreak of the Russian Revolution, she turned with Lenin to Russia, and in 1922 she became commissioner of education for the Soviet Union. She took no active part in the struggle for party power which followed Lenin's death in 1924, but in 1930 announced her support of Stalin.

Meanwhile she had begun her valuable contributions to Soviet educational theory and practice. She sought the abolition of illiteracy among women and, by encouraging the building of nurseries, kindergartens, communal dining halls, laundries, attempted to reduce for women the drudgery of domestic life. In 1927 she became a member of the Central Committee of the Communist Party and of the presidium of the Supreme Soviet. She was the author of *Popular Education and Democracy* (1916); *Memories of Lenin* (Eng. tr., 1930); and of *Soviet Woman* (Eng. tr., 1937).

KRUSE, krō'zē, Heinrich, German dramatist and poet: b. Stralsund, Germany, Dec. 15, 1815: |

Bückebur 13 Jan. 1902. He studied philology at Bonn and Berlin after which he dwelt abroad several years, chiefly in England. He was appointed (1844) teacher at the gymnasium, Minden, but joined (1847) the editorial staff of the *Kölnische Zeitung*. As successor to Terminus he managed (1848-49) the *Deutsche Zeitung* at Frankfurt, but returned to the *Kölnische Zeitung* and became chief editor in 1855, remaining in that post till he took up residence (1872) in Berlin. He lived at Bückeburg from 1884. Among his dramatic works are 'Die Gräfin' (Leipzig 1868; 4th ed., 1873), a tragedy which won the Schiller prize; 'Wullenwever' (1870; 4th ed., 1894); 'König Erich' (1871); 'Moritz von Sachsen' (1872); 'Brutus' (1874); 'Marino Faliero' (1876); 'Das Mädchen von Byzanz' (1877); 'Der Verbannte' (1879), etc., all tragedies. Of his short plays and poems might be mentioned 'Festnachtspiele' (Leipzig 1887); and his clever 'Seegeschichten' (Stuttgart 1880). Consult Brandes, F. H., 'Heinrich Kruse als Dramatiker' (Hanover 1898); Lange, E., 'Heinrich Kruses pommersche Dramen' (Greifswald 1902).

KRUSENSTERN, kroo'zën-stërn, **Adam Johann von**, Russian navigator: b. Haggud, Estonia, 19 Nov. 1770; d. there, 24 Aug. 1846. He entered the cadet corps and took part in the war (1788) with Sweden, and served in the English fleet (1793-99). He was given (1803) command of an expedition to the northwest coast of America and Asia, with the object of opening up the fur trade of the Pacific coast and renewing the Japanese commercial relations. He failed in the latter object but the scientific outcome of the world's circumnavigation was important. From 1827 to 1842 he was director of the naval school and, in 1841, was made general-admiral. His bronze statue was erected (1876) at the naval school, Saint Petersburg. He wrote 'Voyage round the World in 1803-12' (Saint Petersburg 1810-12), translated into several languages and containing an atlas and plates; 'Atlas de l'Océan Pacifique' (Saint Petersburg 1824-27, with supplements).

KRYLOV, krë-löf, **Ivan Andreevich**, Russian fable writer: b. Moscow, 13 Feb. 1768; Saint Petersburg, 21 Nov. 1844. He was the son of a poor subaltern officer, yet in his 15th year he wrote the successful opera 'Kofejnica' ('The Coffee Fortune-teller') and was appointed Unterkanzlist in a circuit town (1781) and Kanzlist at Tver end of the same year. He received a position in the Chamber of Finance at Saint Petersburg (1782) and in the cabinet of the empress (1788) but retired in 1790. He then published several periodicals unsuccessfully though they established his reputation as journalist, the fine satiric talent displayed in his contributions, and by gift of observation and masterly language. Meanwhile he was writing odes, tragedies, a comic opera 'The Crazy Family' (1793) and comedies, all in the French taste but none important. From 1797-1801 he lived on the estate of Prince Golitzyn in the Ukraine, becoming his secretary (1803). In 1806 he went to Moscow, then Saint Petersburg, where he wrote (1807) his most popular comedy 'The Fashion Magazine,' and 'A Lesson for Daughters,' the 'Magic Opera,' 'Ilja the Hero,' etc. He next turned

to poetry, his true field soon appearing to be fables. The first issue of his fables (23) appeared in 1809, the second (21 new) in 1811, in which year he was elected member of the Saint Petersburg Academy. The last collection under his supervision (1843) contained 197 fables and reached its 26th edition in Saint Petersburg in 1891. He was appointed assistant at the Imperial Library in 1812. A memorial in his honor was erected (1885) in the Saint Petersburg Summer Garden. Through their Russian sentiment, humor and naturalness, wit and good nature, his fables have become the favorite book of the people and new editions continue to appear rapidly. Translations in the French (Paris 1825) and the Italian languages have been published, and German versions by Torney (Mittau 1842), Löwe (Leipzig 1874) and Frau von Gernet (ib. 1881) find wide circulation. A comprehensive collection of his works was published (1847 and 1859) in Saint Petersburg with a biography by Pletnev, and another by Kalasha (Saint Petersburg 1914). W. Kenevitch's 'Bibliographical and Historical Notes on the Fables of Krylov' (Saint Petersburg, 2d ed., 1878) contains perhaps, the best commentaries.

KRYPTON, a gaseous element discovered in the atmosphere by Ramsay and Travers, in 1898. (The history of this member of the argon group is so bound up with that of argon itself that reference should be made to the article ARGON, and to the references there given). Krypton was discovered in the last fraction remaining after the evaporation of a considerable quantity of liquid air. The residue consisted chiefly of argon, oxygen and nitrogen; but when the oxygen and nitrogen had been removed, a spectroscopic examination of what remained showed lines that indicated the existence of at least one new element, in addition to argon and helium. To this new element the name "krypton" was assigned, from a Greek word signifying "hidden," in allusion to the circumstances under which the discovery was made. (See also NEON and XENON). Little is known, as yet, concerning the properties of krypton. When it was isolated by means of a tedious diffusion process, it was found by Ramsay and Travers to have a density about 40.75 times as great as that of hydrogen and an atomic weight of about 81.5. The ratio of its specific heat at constant pressure to its specific heat at constant volume was found to be 1.66, as in the cases of argon and helium. Subsequent experiments by Ladenburg and Krügel have indicated a density of about 29.5, and therefore an atomic weight of about 59. Travers, in his book issued subsequently to these later experiments, makes no reference to them. Considerations based upon the periodic law (q.v.) appear to indicate that the results of Ramsay and Travers are the more probable; but this point is as yet undecided. Krypton exists in the air in the proportion of about one part in a million. It has the chemical symbol Kr and appears to be as inert, chemically, as argon.

KTISTOLATRÆ. See MONOPHYSITES.

KU-KLUX (kü'klüks') **KLAN**, a secret society which existed in the Southern States of the United States during the period immediately following the Civil War (1865-76). It was originally established at Pulaski, Tenn., about

1865 and its purpose was at first the amusement of its members. However, the sudden enfranchisement of the blacks of the South brought to the white population the serious problem of social readjustment. Politicians and unscrupulous business men (carpet-baggers) were among the many Northerners who flocked to the South to exploit the new citizens, while the Negroes, loosed from the restraining influence of their masters, and ignorant of and unprepared for the responsibilities of full citizenship, were demoralized and lawless. The Ku-Klux Klan, therefore, took upon itself the duty of frightening the blacks into good behavior and obedience. From this beginning, all sorts of lawless deeds of violence were performed in the Klan's name, until the band became notorious. At the first meeting a name was suggested—"Ku-Kloi," from the Greek "Kuklos," a band or circle. On the mention of this name someone cried out, "Call it 'Kuklux.'" Nearly all present were Tennesseans, with only one or two from farther south. The name was adopted and the society provided for the following officers: A grand cyclops or president; a grand magus or vice president; a grand turk or marshal; a grand exchequer or treasurer and two lictors. There were the outer and inner guards of the "den," as the place of meeting was designated. Each member was required to provide himself with the following outfit: A white mask for the face, with orifices for the eyes and nose; a tall, fantastic cardboard hat, so constructed as to increase the wearer's apparent height, and in shape like those placed on the heads of the heretics formerly burnt in the Portuguese and Spanish *auto-de-fes*; a gown or robe of sufficient length to cover the entire person. The color and material were left to the wearer's fancy and each selected what would in his judgment be most hideous and fantastic. Each member carried also a small whistle, with which, by means of a code of signals agreed on, they held communication with one another. The Klan increased in numbers and in power, an *imperium in imperio*, until its decrees were far more potent and its powers more dreaded than that of the visible commonwealths which it either dominated or terrorized. In April 1867 the grand cyclops of the Pulaski den sent out a request to all the dens scattered over the South to appoint delegates to meet in convention at Nashville, Tenn., in the early summer of 1867. At the time appointed this convention was held. Delegates were present from the Carolinas, Alabama, Georgia, Louisiana and other Southern States. A plan of reorganization previously prepared was submitted to the convention and adopted and the delegates returned to their various states as secretly as they had come.

The grand officers were: The grand wizard of the invisible empire and his 10 genii. The powers of this officer were almost autocratic. The grand dragon of the realm and his eight hydras; the grand titian of the dominion and his six furies; the grand cyclops of the den and his two nighthawks; a grand monk; a grand exchequer; a grand lictor; a grand scribe; a grand turk; a grand sentinel. The genii, hydras, furies, goblins and nighthawks were staff officers. The gradation and distribution of authority were perfect.

One of the most important things done by this Nashville convention was to make a positive and emphatic declaration of the principles

of the order. It was in the following terms: "We recognize our relations to the United States Government; the supremacy of the Constitution; the constitutional laws thereof; and the union of the States thereunder."

This Nashville convention also defined and set forth the peculiar objects of the order as follows:

1. To protect the weak, the innocent and the defenseless from the indignities, wrongs and outrages of the lawless, the violent and the brutal; to relieve the injured and the oppressed to succor the suffering and especially the widows and orphans of Confederate soldiers.

2. To protect and defend the Constitution of the United States and all laws passed in conformity thereto, and to protect the states and people from all invasion from any source whatever.

3. To aid and assist in the execution of a constitutional laws, and to protect the people from unlawful seizure, and from trial except by their peers in conformity to the laws of the land.

The Klan had a very large membership; it exerted a far-reaching and terrifying power but its influence was never at any time dependent on or proportioned to its membership. A careful estimate placed the number of Kuklux in Tennessee at 40,000, and in the entire South at 550,000. In 1871, a special message was sent to Congress by President Grant, pointing out the fact that the constitutional rights of some of the citizens and officials of the United States were being rendered insecure by the lawless membership of the country and urging a Congressional enactment to put a stop to this condition of affairs. An investigation followed, and Congress passed the "Force Bill" for the purpose of enforcing the 14th amendment and dealing with all offenders against that amendment. In October of the same year, the president issued a proclamation calling on the members of all illegal associations in nine counties in South Carolina to disperse and surrender their arms and disguises. Five days later a proclamation was issued suspending the privileges of the writ of habeas corpus in the counties named. Several hundred persons were arrested, and this demonstration caused the gradual dissolution of the organization. Its purpose—to check the threatening political supremacy of the Negroes in the South—had been accomplished.

A second, though distinct, organization known as Ku Klux Klan came into existence in 1915. Founded in Atlanta, Ga., by William Joseph Simmons as a fraternal organization, it stood for white supremacy in the South and a militant Protestantism, excluding from its ranks, besides Negroes, the Jews, Roman Catholics, and all born abroad. In 1920 Edward Young Clarke, a former newspaper man, undertook to promote the movement, extending it from the South as far as Maine, and into the Middle West and the Pacific seaboard. Appointed imperial kleagle, Clarke selected organizers, termed kleagles, in 40 states; he received \$4 of each \$10 membership fee, and the king kleagle \$1, the remainder going to the imperial treasurer. Many outbreaks of violence were attributed to the Ku Klux Klan, which became politically powerful, electing several state officials and also members of Congress. After 1926, when it had over 2,000 local organizations, the influence of the Ku Klux Klan

egan to wane, its decline due to state laws compelling unmasking, and to unsavory scandals in the personal and official lives of leading clansmen; among others, the governor of Indiana and the mayor of Indianapolis were indicted and convicted.

Consult Mecklin, John M., *The Ku Klux Klan* (New York 1924).

KUALA KANGSAR, kwä'lä kŭng'sēr, town, Federation of Malaya, in Perak state, on the Perak River 12 miles southeast of Taiping. It contains the residence of the sultan of Perak and a Malay college which prepares students for entry to the University of Malaya. Pop. (1941 est.) 6,030.

KUALA LIPIS, kwä'lä lŏ'pīs, town, Federation of Malaya, capital of Pahang state, on the Jelai River 75 miles north of Kuala Lumpur. It is the center of a rice-growing area, and is served by the east coast branch of the Malayan Railway. Pop. (1941 est.) 4,111.

KUALA LUMPUR, kwä'lä lŏm'pŏr, city, Federation of Malaya, capital of Selangor state and of the Federation, on the Klang River 27 miles northeast of Port Swettenham. It is on the west coast branch of the Malayan Railway, and from it a spur line runs to Port Swettenham. The city has many modern buildings, and contains a Malay girls' college and a technical college. It is the commercial center for a large tin-mining and rubber plantation area. Pop. (1947) 175,961.

KUALA TRENGGANU, kwä'lä trēng-gānŏ, town, Federation of Malaya, capital of trengganu state, at the mouth of the Trengganu river. Coconuts and rice are cultivated extensively in the vicinity. Pop. (1947) 27,004.

KUBAN, kŏŏ-bān', river, USSR, rising in the foothills of Elborus (Elbrus), highest peak of the Caucasus Mountains. It flows in a generally northwesterly direction into a delta with three mouths—two on the Sea of Azov and one on the Black Sea. The river has a length of 1,122 miles but is navigable for large vessels for less than 100 miles. It was known to the ancients as *Hypanis*.

KUBELIK, kŏŏ'bē-lik, Jan, Czech violinist: b. near Prague, July 5, 1880; d. Prague, Dec. 5, 1940. He studied at the Prague Conservatory and made his first public appearance at Vienna in 1898. The first of many appearances in the United States was at Carnegie Hall, New York City, in 1901. He became a naturalized Hungarian citizen in 1903. After World War I he composed several violin concertos, and a symphony first presented in Prague in 1939. During 1927-1931 he appeared in India, China, and Japan, and in several South American and South African cities. He was regarded as one of the most able violinists of his time.

KUBLA KHAN, a poetic fragment of 54 lines by Samuel Taylor Coleridge (q.v.) which describes in highly imaginative language the stately pleasure palace built by an Eastern prince amid strange and visionary surroundings. According to Coleridge's own account the poem came to him as an opium dream, after he had been reading an account of Kubla Khan in *Pur-*

chas, his Pilgrim (1619) by Samuel Purchas (q.v.). *Kubla Khan* was published at the request of Lord Byron (q.v.) in 1816. It belongs to the brief period of Coleridge's creative activity, and is akin in imaginative and poetic qualities to the two other masterpieces of Coleridge's muse, *Christabel* and *The Ancient Mariner*, though less coherent than either of these longer works. The vision has no meaning and needs none. It is simply a succession of images, dreamlike and unreal, but vivid and colorful.

JAMES H. HANFORD.

KUBLAI KHAN, kŭ'bli kǎn', or **KHUBILAI KHAN**, or **KUBLA KHAN**, Mongol khan and founder of the Mongol dynasty in China: b. 1216; d. 1294. He was the son of Tului and grandson of Genghis Khan (q.v.), and brother of Mangu Khan and Hulagu. After Mangu, his older brother, became Mongol khan in 1251, he took part in the campaign for the conquest of southern China, advancing into Tonkin and going as far as the frontiers of Tibet. Following Mangu's death in 1259 he was in turn chosen khan, and in the years that followed he completed the subjugation of north China by expelling Kin Tatars. He suppressed several rebellions, and during 1264-1267 he established his capital (on the site of what became Peiping), known as Khanbalik (City of the Khan), Tai-tu, or Cambaluc. In 1280 he founded the Yüan dynasty, becoming ruler over a vast domain which extended westward across Asia as far as Russia. Both Korea and Burma fell to him, but he failed to conquer Japan and Java. He made Buddhism the state religion of his empire. Between 1275 and 1292 he made frequent use of the services of Marco Polo (q.v.), who left a vivid account of his experiences. The magnificence of his court inspired Samuel Taylor Coleridge's unfinished poem, *Kubla Khan* (q.v.). Through a wise administration he was able to repair the evils of so many wars, and he brought letters, commerce, industry, and agriculture to a very flourishing condition by the encouragement which he gave to them.

Consult Yule, Sir H., *Marco Polo* (London 1875); Howorth, Sir H. H., *History of the Mongols* (London 1876); Lamb, Harold A., *Genghis Khan* (New York 1927).

KUCHING, kŏŏ'chīng, town, Borneo, capital of the British colony of Sarawak, on the Sarawak River about 10 miles from its mouth. Most of the country's exports, with the exception of petroleum products, are shipped from its port. There is a weekly steamship service to Singapore; and Kuching is also connected with Singapore and North Borneo by a service of Malayan Airways. The Japanese captured the town on Dec. 26, 1941. Pop. (1950) 37,954.

KUCHUK KAINARJI, kŭ-chŭk' kī-nār-jī', village, Rumania, in the southeast of the country near Silistria (Silistra); it is now known as CAINARGEA-MICĂ. Here, on July 21, 1774, a treaty was signed ending the first war of Catherine II (Catherine the Great) of Russia against Turkey. Russia was permitted to fortify Azov, at the eastern end of the Gulf of Taganrog, and to navigate through the Kerch Strait into the Black Sea; she also secured territory on the Bug and Kuban rivers, and Orthodox Christians in the Ottoman Empire were placed under Russian protection.

KUDU, kōō'dōō, one of the largest species of antelope found in Africa. The greater kudu (*Strepsiceros kudu*) is found all over South Africa, in the west up to Angola, in the east to Somaliland and Ethiopia, and north into the Anglo-Egyptian Sudan. This majestic animal stands about 52 inches, is tawny to slate gray in color, with white markings which include vertical stripes on the sides. There is a mane on the back and throat. The horns, up to 60 inches long, are twisted in a wide open spiral of about two turns. The lesser kudu (*S. imberbis*), inhabits the bushy country of East Africa up to Somaliland. It is about 40 inches tall and its white markings are more distinct than those of the greater kudu. There is no mane on the throat and the spiral horns are up to 34 inches long. The females of both species are smaller and hornless.

KUENLUN SHAN. See KUNLUN SHAN.

KUFA. See AL KUFA.

KUFIC or **CUFIC WRITING**, kū'fik, the angular characters used by the Arabs in inscriptional and ornamental writing, as distinguished from the rounded cursive, popularly known as Naskhi, used in governmental and commercial offices, books, and private correspondence.

The early Arabs of southern Arabia developed a square writing, called Musnad, which has survived in tomb and votive inscriptions. Later, the northern Arabs replaced the Musnad with an entirely new type of writing evolved out of the Nabataean Semitic characters by the 3d century after Christ. The earliest extant inscription is that of Namarah in northern Syria and is dated 328 A.D. The earliest extant cursive specimen comes from Egypt and is dated 643 A.D. The Kufic presumably was first perfected in the 7th century by calligraphers in the newly-founded city of Kufa in present-day Iraq. Its use spread throughout the fast expanding Islamic Arab empire established shortly after the death of Mohammed, the founder of Islam, in 632. Kufic characters generally are larger and heavier than the cursive. They often were used for seals, coins, and glass weights. Because of its size and impressiveness, the Kufic script also was used up to about the year 1000 for the Koran, especially for large copies for use in mosques.

Kufic characters were quite simple at first. But during the first three centuries of Islam (7th-10th centuries) the parent Kufic gave rise to a number of progressively elaborate styles of ornamental Kufic for inscriptions, for sumptuous copies of the Koran, and for decorative titles and chapter headings of literary manuscripts. In the meantime, the more practical and widely used cursive writing also had branched out into a number of styles, some of which were anything but decorative or artistic. Ibn Muqlah (d. 940), a famous calligrapher and a wazir at the court of the caliph of Baghdad, stabilized the basic forms of individual letters and also classified and described the leading styles. He paid particular attention to the more practical cursive scripts. Some of these scripts replaced the more elaborate and difficult Kufic, at first in noninscriptional writing such as the Koran, and later in inscriptional writing itself. The Kufic script went out of style about 1000 A.D. and was eventually almost forgotten. It was a rare Arab scholar of the

later Middle Ages who could decipher the ancient Kufic inscriptions or literary texts.

Modern scholars, interested in the early historical inscriptions of Islam, took great pains to decipher Kufic texts. More recently, the Near East itself has shown a revived interest in this ancient writing art. Today, old and new Kufic scripts are used for their decorative effect in printed books and in eye-catching advertisements on the main streets of such Arab cities as Cairo and Baghdad.

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KUFOW or **CHUFOW**, chū'fōō', town, China, in the southwestern part of Shantung Province about 65 miles south of Tsinan. Confucius (c.551-479 B.C.) lived here for most of his life, and his descendants, the K'ung family, continue to reside in the town. Kufow contains a magnificent temple originally built in 478 B.C. and rebuilt or renovated by successive emperors. Confucius' tomb and the graves of thousands of his descendants are in the 600-acre cemetery located one mile north of the town. Industries include silk weaving and straw plaiting. Pop. (est. 1949) 20,000.

KUHLMANN, kü'l'män, Richard von, German statesman: b. Constantinople (now Istanbul) Turkey, May 3, 1873. After serving in diplomatic posts in London, Constantinople, and The Hague in August 1917 he became foreign secretary and negotiated the peace treaties with Russia (at Brest Litovsk, March 3, 1918) and with Rumania (at Bucharest, May 7, 1918). In July of the same year Kühlmann was forced out of office for publicly urging peace with the Allies through reciprocal concessions rather than by force of arms alone.

KUHN, kōōn, Adalbert (in full FRANZ FRIEDRICH ADALBERT KUHN), German philologist and mythologist: b. Königsberg (Newmark), Germany Nov. 19, 1812; d. Berlin, May 5, 1881. He studied in Berlin, taught at the Kölnisches Gymnasium and became its director in 1870. Kuhn founded a new school of comparative mythology based on comparative philology. He established his reputation with research on Indo-German languages and history. His most important work is *Zur älteren Geschichte der indogermanischen Völker* published in 1845. His other works include *Herakunft des Feuers und des Göttertrains* (1859).

KUHN, Richard, German chemist: b. Vienna, Austria, Dec. 3, 1900. He studied at the University of Munich and served as director of the Kaiser Wilhelm Institute for Medical Research in Heidelberg. Kuhn's reputation is based on his researches on carotinoids and vitamins. He contributed toward the isolation of riboflavin or B₂. He was awarded the Nobel Prize in 1937 but declined it on instructions from the Nazi government.

KUIBYSHEV, kōō't-bī-shēf (formerly KUIBYSHEVSKAYA), oblast (region), USSR, in the southeastern part of the European RSFSR. It lies on both sides of the great bend in the Volga River and extends over an area of some 20,800 square miles. South of the Volga bend the terrain is mostly

vel or gently rolling steppes. A large multipurpose dam was begun in 1950 which will irrigate the drought area east of the Volga. Mineral resources include petroleum, oil shale, asphalt, gypsum, phosphorite, sulphur, cement rock, limestone, and quartz sand. Agriculture is the chief occupation, and major crops raised include rye, oats, barley, potatoes, and sunflowers. Wheat is grown in the south, vegetables, sugar beets, fruit and coriander in other parts of the oblast. Industries include food processing, flour and sugar milling, tanning, and quarrying. In the larger urban centers light manufacturing is carried on and also metal- and wood-working. Transportation facilities by rail and road are extensive. The region exports petroleum, building materials, machinery, chemicals, grain and livestock. It was made an oblast in 1936. During World War II Kuibyshev was exploited as a vital petroleum region. Pop. (1946 est.) 1,950,000.

Kuibyshev, capital city of the oblast of the same name, its largest city and a river port, is located on the left bank of the Volga River at its junction with Samara, about 530 miles southeast of Moscow. It is a leading industrial, commercial, and transportation center. It manufactures aircraft, locomotives, rail cars, ball-bearings, tractors, synthetic rubber, and textiles. It also refines petroleum and has pipelines from the Pokhvistnevo and Zhiguli Mountains oil wells. Hides, grain, meat and sunflower oil from the surrounding agricultural area are processed here. Grain and livestock are the chief exports. As a cultural center, Kuibyshev has technical, medical, economic and teachers colleges and research institutes. There are two cathedrals, some old churches, museums and several monuments. During World War II it served as the temporary capital of the Soviet Union when German troops threatened Moscow, more than doubling in population. Originally Kuibyshev was a Moscovite stronghold founded in 1586. During the 17th century it became a thriving trade center, chiefly for grain merchants. After railroads were built to Siberia in 1896 and Central Asia in 1906, it developed into a major industrial center. In 1918 it was the seat of the anti-Bolshevik provincial government and Russian constituent assembly. Formerly called Samara, it was renamed for the Soviet leader Valerian V. Kuibyshev in 1935. Pop. (1946 est.) 600,000.

KUKA, kōō'kà, or **KUKAWA**, kōō'kà-wà, town, Nigeria, situated in Bornu Province, near Chad. During the 19th century it was the capital of the Bornu kingdom, a Mohammedan state in the central Sudan. As the departure point for Tripoli-bound caravans, it also was a thriving communications center with a population of some 60,000. In 1893 Kuka was captured by the African chieftain Rabah Zobeir and thereafter fell into ruin. When it came under British protection in 1902, the British rebuilt it as a garrison town. Inhabitants today raise cassava, millet and cotton and produce gum arabic. The town also has salt works. Pop. (1931) 3,282.

KUKAI. See **KOBO DAISHI**.

KUKI-CHINS, kōō'kī-chinz', are a constellation of tribes which inhabit the hill country of eastern Bengal, Assam, and western Burma. They are Tibeto-Burmese in speech, and Mongoloid in physical type. They raise some crops in jungle clearings and keep mithan (domesticated bison), but

depend on hunting and fishing for much of their food. Being extremely warlike, they live in hilltop villages protected by spike fences and sharp bamboo points embedded in the ground. The Kuki raid enemy villages for plunder and captives; the Chin kill anyone encountered in enemy territory. However, since the people are alert to danger there are few casualties. Each village is politically independent. Among the Old Kukis of Assam a council of elders administers village affairs while an elected chief acts as religious leader. The culturally predominant Lushei Kukis have hereditary village chiefs with theoretically absolute powers. Outside the lineage from which chiefs are drawn, prestige is attained by giving feasts. Most Kuki-Chins believe their country inhabited by spirits of the dead and by evil spirits who must be propitiated with sacrifices. In 1931 the Kuki-Chins numbered 554,842. In the first part of the 20th century over half of the Lushei Kukis were converted to Christianity, with a loss of old customs beliefs.

ELIZABETH E. BACON.

KUKU NOR. See **KOKO NOR**.

KULA GULF, kōō'là, a body of water about 17 miles long and 10 miles wide, between New Georgia and Kolombangara in the Solomon Islands. United States naval forces scored two victories here over the Japanese in July 1943.

KULDJA or **KULJA**, kōō'l'jä, (formerly NINGYÜAN), town, China, in the northwestern part of Sinkiang Province, on the Ili River, about 300 miles west of Urumchi near the Russian border. Located between the Tien Shan and Ala Tau mountain ranges, it trades in tea and cattle, grows cereals and fruit and manufactures wool textiles. Iron and coal mines are nearby. Formerly an important trade center for westbound caravans, this walled city still is connected by routes to Issyk Kul and Alma Ata in the Soviet Union. Russia seized Kuldja in 1871, occupied it for ten years, and restored it to China by a treaty in 1881. Pop. (est.) 30,000.

KULM. See **CHELMNO**.

KULMBACH, kōōlm'bāk, city, Germany, in northern Bavaria, Upper Franconia district, 12 miles northwest of Bayreuth, in the American zone. A rail junction, malt manufacturing and brewing center, Kulmbach is noted chiefly for its beer. Other important industries are toys, shoes, lumber, textiles, food, and metals. There is a 15th century Gothic church and a 17th century baroque monastery, among other notable edifices. The Hohenzollern fort which overlooks the city has served as a prison since 1808. Kulmbach first was mentioned in 1035 and it was chartered sometime before 1248. The margraves of Kulmbach resided here from 1340 to 1603. Imperial troops almost destroyed it in 1533. It passed to Prussia in 1791 and in 1810 to Bavaria. United States troops captured Kulmbach in April, 1945. Pop. (1950) 24,159.

KULPE, kül'pē, **Oswald**, German philosopher and experimental psychologist: b. Candau, Germany, Aug. 3, 1862; d. Munich, Dec. 30, 1915. He was educated in German universities and in 1894 was appointed adjunct professor of philosophy and aesthetics at Wurzburg University. He rendered

effective service as director of the Psychological Institute at Würzburg, where he applied the principles of Wilhelm Wundt (q.v.). He defined psychology as the science of personal experiences in dependence upon the individuals who experience them, and held that the theory of knowledge is the doctrine of fundamental ideas and principles as the material assumptions of all particular sciences. Association is reproduction resulting from experience; and sensations which have been together in consciousness tend to reproduce one another. His works included *Die Philosophie der Gegenwart in Deutschland* (5th ed. 1911); *Immanuel Kant* (3d ed. 1912); *Psychologie und Medizin* (1912).

KULTURKAMPF, kōōl-tōōr'kämpf', a German term denoting the contest for political and legal rights waged between the authorities of Germany on the one hand and the authorities of the Roman Catholic Church on the other. The conflict was begun by Prince Otto Eduard Leopold von Bismarck-Schönhausen (q.v.) in 1872 and had for its main point of dispute the control by the state of educational and ecclesiastical appointments. He contended that the declaration of papal infallibility by the Vatican Council in 1870 was an arrogation of rights dangerous to the state and that the Catholic Church had assumed an attitude of aggression dangerous to the laws of the state. The ill feeling arising from the questions at issue led the Reichstag to pass a law in 1872 expelling the Jesuits from the German Empire. The outbreak of the kulturkampf, however, dated from the enactment of the May laws (1873), aiming at state control of the clergy. The Catholic bishops, clergy, and people refused to recognize the validity of the new laws. This opposition was met by still more drastic government measures, and in 1875 all recusant priests were deprived of their salaries and all religious orders were abolished. The accession of Pope Leo XIII prepared the way, however, for a resumption of friendly relations between the imperial government and the Catholic Church, and negotiations began in 1878 resulting in a nullification of the laws of 1873. The only remnants of the repressive legislation that remained were the proscription of the Jesuits and compulsory civil marriage.

KUM. See QUM.

KUMANOTO, kōō-mā-mō-tō, Japan, capital of a prefecture of the same name, on the west coast of the island of Kyushu near the mouth of the river Shirakawa. The city contains a formidable 16th century castle famous in Japanese annals and subsequently the headquarters of a military district. It has several institutions of higher learning, including a government medical school; Lafcadio Hearn (q.v.) taught in Kumamoto. The silk industries are of importance. Pop. prefecture, 1,407,500; city, 201,400.

KUMANOVO, kōō-mā'nō-vō, Yugoslavia, town of Vardarska County, 20 miles northeast of Skoplje (Uskub). It lies on the main highway between southern Serbia and Bulgaria, in a richly mineralized district, and has a considerable trade in livestock and agricultural produce. In October 1912, during the Balkan

Wars (q.v.), the Serbs gained a decisive victory over the Turks near Kumanovo. The town was captured by the Bulgarians on Oct. 20, 1915, during World War I, and here, three years later, the Bulgarian Army surrendered. Pop. (1931) 16,949.

KUMASI or **COOMASSIE**, kōō-mā'si, British West Africa, capital of Ashanti, a division of the Gold Coast, 168 miles north of Sekondi. The town was occupied by British forces in 1874, and again in 1896. When the Negro kingdom of which it was the capital was annexed in 1901, the town became an administrative headquarters. Kumasi was rebuilt on modern lines after the railroad reached it in 1903, and eventually it became an important center for missionary and educational work. The economic prosperity of the town depends chiefly upon the production of cacao in the vicinity. A motor road of 130 miles extends from Kumasi to Pamu, on the western frontier of Ashanti. Pop. (1942 est.) 43,413.

KUMAUN, kōō-moun' India, an administrative division of the United Provinces, 13,725 square miles in area, situated in the foothills of the Himalayas west of Nepal. Most of the division is covered by dense forests which contain numerous species of hardwoods. Kumaun is highly mineralized, and there are many tea plantations. Pop. (1941) 1,581,262.

KUMBAKONAM or **COMBACONUM**, kōōm'ba-kō'nām. India, town of the Tanjore district of Madras, in the delta of the Cauvery 194 miles southeast of the city of Madras. The town was once the capital of the Chola kingdom, a Hindu dynasty, and is one of the strongholds of Brahmanism (q.v.) and Brahmanical culture. A place of special sanctity, it contains numerous temples and water tanks, according to tradition, a subterranean stream connects one of the latter with the Ganges. Pop. (1941) 67,008.

KUMISS, kōō'mis, a preparation of milk whether cow's, mare's, ass's, or goat's, which said to possess nutritive and assimilable properties valuable in the treatment of tuberculosis, scrofula, and diarrhea. It consists essentially of milk in process of fermentation. On the Asiatic steppes, where it has been long used as a beverage, it is made of mare's milk, but kumiss of mare's milk or goat's milk has a somewhat unpleasant smell. The manufacture of kumiss is carried on in Switzerland, Russia, and elsewhere.

KUMMEL, kim'el, Henry Barnard, American geologist: b. Milwaukee, May 25, 1867; Trenton, N. J., Oct. 23, 1945. He received his B.A. from Beloit in 1889, and for the next two years taught at the academy attached to the college. During 1891-1892 he was assistant geology at Harvard, where he took his master's degree in the latter year, and from 1892 to 1895 he occupied a fellowship in geology at the University of Chicago; there, in 1895, he obtained his Ph.D. He was assistant professor of physiography at Lewis Institute, Chicago, from 1896 till 1899; and from 1902 he served as state geologist for New Jersey. From 1904 until 1915 he was executive officer to the Forest Commission of New Jersey; he was

esident of the Association of American State zoologists from 1908-1913. He contributed numerous useful articles to periodicals, especially on the stratification of the New Jersey ils and similar subjects.

KUMMEL, kīm'ēl or **DOPPELKUM-EL**, a liqueur produced by the distillation of cohool with caraway seed or by mixing oil of araway with alcohol, and adding sugar and ater. The best known kinds are Gilka Getreide-ummel, from the Gilka factory at Berlin; kauer, a very strong and fine liqueur having much oil of caraway; and Allasch, the kümmel made at Allasch, near Riga, and containing anied, fennel, and coriander as well as caraway.

KUMMER, kōōm'ēr, **Ernst Eduard**, German mathematician: b. Sorau, Silesia, Jan. 29, 1810; d. Berlin, May 14, 1893. He studied (1828-31) theology at Halle, then mathematics. In 1832 he was appointed instructor in mathematics at Liegnitz, and 10 years later he went to Breslau as professor. From 1855 until 1874 he taught at the Berlin Military Academy. He was permanent secretary of the Academy of Sciences from 1863, retiring from active work in 1884. In his second period he worked on the theory of numbers. He created the system of ideal prime numbers in order to overcome difficulties encountered in his work on complex numbers. In 1857 he was awarded the Grand e by the Paris Academy. He also devoted k later to advance the science of geometry. *Allgemeine Theorie der Strahlensysteme* him on to the Kummer Surfaces, named r him. Other works by him were *Über die kung des Luftwiderstandes auf Körper von schiedener Gestalt insbesondere auf die Ge-isse* (1875).

KUMMER, **Frederic Arnold**, American hor and playwright: b. Catonsville, Md., g 5, 1873; d. Nov. 22, 1943. After graduat- at the Rensselaer Polytechnic Institute, y. N. Y., in 1894, he pursued a career in ueering until 1907, when he resigned to de- e himself wholly to literature. His novels luded: *Plaster Saints* (1921); *Design for vder* (1936); *Death at Eight Bells* (1937); e *Great Road* (1938). Sigmund Romberg ote the music for his musical comedy *The ogic Melody* (1919), and Victor Herbert that r *My Golden Girl* (1919), a musical play. e music for his play *Song of Omar* (1935) as composed by Harry Tierney. Numerous ooks written under the pseudonym Arnold edericks included *One Million Francs* (1912) s *The Spanish Lady* (1938). His motion- ure scenarios included *The Slave Market*, e *Ivory Snuff Box*, and *The Belgian*.

KUMQUAT, kūm'kwōt, a genus of shrubs, *Fortunella*, of the family Rutaceae related to the orange. Several species are known, natives of China and Japan. The plants are 10 to 15 high, with small fragrant white flowers, oblong or globose fruits 1 to 1½ inches in eter. Kumquats were introduced into the d States about 1850 and subsequently were sively grown along the Gulf Coast and in ornia. They are the hardiest of the citrus s, being able to withstand temperatures as as 15°F. without injury. The fruits are

eaten raw, but are more generally used for making marmalade, jelly, and candied fruit.

KUN, kōōn, **Bela**, Hungarian politician: b. near Győr, 1885. He was of Jewish parentage. After graduating in law at the University of Kolozsvár (Cluj), he turned to journalism and politics. At the outbreak of World War I he was called to serve in the Austro-Hungarian Army, in 1915 being captured by the Russians. Espousing bolshevism, he returned to Hungary in 1918 and commenced publication of the *Vörös Ujság* (*Red News*). In 1919 he organized a Communist revolution in Budapest, and on March 22 he became premier in succession to Count Mihály Károlyi. (See KÁROLYI, COUNTS.) As head of a coalition administration of Social Democrats and Communists he introduced radical changes in government, but failed to get the support of the peasants. On July 31, 1919, he was ousted by a counter-revolution which was aided by the Rumanians, and was forced to flee. He went first to Vienna, where he was held for a time in a mental hospital, and thence to Russia. In April 1928 he reappeared briefly in Vienna, only to be deported to Russia after a short imprisonment.

KUNCHINJINGA. See KANCHENJUNGA.

KUNDT, kōōnt, **August Adolf**, German physicist: b. Schwerin, Nov. 18, 1839; d. Israelsdorf, near Lübeck, May 21, 1894. He graduated at the Berlin University (1867), becoming teacher (*privatdozent*), and going to the Zürich Polytechnikum (1868) as professor of physics. Thence he went (1870) to Würzburg, and next (1872) to Strassburg. In 1888 he was called to Berlin. He investigated first the acoustic vibratory motion of solids and gaseous bodies and discovered the dust figures in closed sounding tubes, which offer a medium for calculating the velocity of sound in gases and to compare these with those in solid bodies. He investigated the phenomena of the anomalous dispersion of light of substances which show strong absorption of certain colors. His researches in heat conductivity and friction in gases were very fruitful, also those into the rotation of the plane of polarization in gases and the optical characteristics of metals.

KUNDT, **Hans**, German army officer: b. New Strelitz, Mecklenberg, Feb. 28, 1869; d. Lugano, Italy, Aug. 28, 1939. At the age of 19 he became a cadet of infantry. In 1911 he was sent to Bolivia as head of a military mission, but returned to Germany at outbreak of World War I. He served on the staff of Gen. Field Marshal August von Mackensen (q.v.), reaching the rank of major general, and in 1920 he went back to Bolivia. Becoming a Bolivian citizen, he helped create a powerful army, but was dismissed following a revolution in 1926. He was recalled to military command during 1928-1930, and again in 1932, sharing in direction of the G-an Chaco War against Paraguay. Losing his post as a result of the disasters in 1933, he sailed once more for Germany. Disliking the Nazi regime there, he settled in Italy.

KUNENE. See CUNENE.

KUNERSDORF, kōō'nērs-dōrf, a village

in the Province of Brandenburg, Prussia, 10 miles north-northeast of Frankfurt an der Oder, the scene of an important battle in the Seven Years' War, fought Aug. 12, 1759. A Prussian army of between 40,000 and 50,000 men under Frederick the Great attacked nearly twice that number of Austrians and Russians. In his initial attack on the Russian flank, Frederick gained considerable advantages, capturing 180 guns. He next proceeded against the Austrians, who, however, held their ground and brought all their artillery to bear at close quarters, with the result that the Prussians were totally routed with a loss of 20,000. The other side lost even more, about 25,000. Through this failure Dresden fell, three weeks later, into the hands of the Allies.

KUNG, kōōng, H. H. (K'UNG HSIANG-HSI), Chinese statesman: b. Taku, Shansi, 1881. A lineal descendant of Confucius (q.v.) in the 75th generation, he married Ai-ling, sister of T. V. Soong (q.v.), and through her sisters, Ch'ing-ling and Mei-ling (Mayling) he was also brother-in-law of Sun Yat-sen and Chiang Kai-shek (qq.v.). He was sent to the United States for his education, graduating at Oberlin College in 1906 and obtaining his master's degree at Yale the next year. In 1911 he established at Taku the Oberlin Shansi Memorial College, and he served as its president until 1932. Meanwhile he took an active part in the new republican administration of China, conducting negotiations with Japan (1922) and Russia (1924-1927), and serving as a member of the executive committee of the Kuomintang (1926-1928) and as minister of industry (1928-1931). In April 1933 he succeeded T. V. Soong as governor of the Central Bank of China, and the following November he was also appointed the Nationalist government's minister of finance. He went to London in 1937 to represent China at the coronation of George VI, and subsequently he visited several European countries, and the United States, seeking loans to finance the war against Japan. He was replaced as finance minister in November 1944, and in July 1945, after returning to Chungking from a visit to the United States, he also resigned the governorship of the Central Bank. In 1951 he was a non-resident alien in the United States.

KUNIGUNDE, kōō'nē-gōōn'dē, Saint: d. Kaufungen, near Cassel, March 3, 1039. She was a daughter of Count Siegfried of Luxembourg and wife of Emperor Henry II. Legend says both vowed to live in celibacy. She was active during the foundation of the bishopric of Bamberg in 1007. The legend that she passed unscathed through the fire test in order to prove her innocence when accused of infidelity has been proven false. After Henry's death (1024) she became a nun in the convent at Kaufungen, which she had founded, and died there. She was buried in Bamberg Cathedral. In 1200 she was canonized by Pope Innocent III.

KUNIYOSHI, kōō-nī-yō'shī, Yasuo, yā-sōō'ō, American painter: b. Okayama, Japan, Sept. 1, 1893. After coming to the United States in 1906, he studied painting at the Los Angeles School of Art and Design (1908-1910) and at the National Academy of Design (1912-1914). He also attended the Art Students League (1916-1920), where he later became an instructor

in painting and composition; he has also taught at the New School for Social Research.

In 1922 he was honored in New York City with his first one-man exhibition, and has since become represented in more than 20 major American art collections, including the museum of the Library of Congress. Kuniyoshi has frequently won exhibition prizes, including first prizes at the American Exhibition at the Golden Gate Exposition (1939) and at the Carnegie Institute show in 1944. His paintings, generally reflecting slight French and Oriental influences, are lyrical and sophisticated in style, reflect control of form, and are sensitively drawn. Frequent Kuniyoshi subjects are nudes painted in moments of lonely relaxation or contemplation, such as his *All Alone, The Morning After*, and *Somebody Tore My Poster*. Occasionally he conveys pointed social comment from such canvases as *Cemetery* and *Pic in the Sky*, and frequently, especially in his *Still Life*, his subject matter reflects fresh originality and wit in his arrangement of objects.

Although not an American citizen because of his Japanese birth, Kuniyoshi contributed to the American World War II effort by painting posters for the Office of War Information and by writing radio scripts for the Coordinator of Information.

KUNLUN SHAN, kōōn'loōn' shān', a mountain system of central Asia, on the northern fringe of the Tibetan plateau and south of Sinkiang; from the Pamirs and the Karakoram Range on the west, it extends to Tsinghai in the southeast and lesser ranges in central China.

KUNMING, kōōn'ming' (formerly YUN-NAN), city, China, capital of Yunnan Province, 380 miles southwest of Chungking. It is the terminus of a railroad to Indochina and of the Burma Road (q.v.), and in World War II was an important strategic center, used as a United States Air Force base. It has a considerable trade in furs, precious stones, tin, and tea. Pop. (official est. 1945-1946) 255,462.

KUNTZ, kōōnt, Karl Sigismund, German botanist: b. Leipzig, June 18, 1788; d. Berlin, March 22, 1850. Influenced by Alexander von Humboldt (q.v.) to study botany, in 1813 went to Paris and there classified and described in his *Synopsis* (1822-1825) the collection plants made in the equinoctial regions of the Americas by Humboldt and Aimé Bonpland, the French naturalist, during 1799-1804. In Paris he also published: in Latin, *Nova genera speciei plantarum*, 7 vols. (1815-1825); French and Latin, *Mimosas et autres plantes légumineuses du nouveau continent* (1819); and in French, *Révision des graminées*, 2 vol. (1829). In 1819 he was appointed professor at Berlin University and vice-director of the botanical gardens. Later works included *Enumeratio plantarum omnium cognitarum secundum familias naturales disposita*, 5 vols. (1833-1850).

KUNZ, kōōnts, George Frederick, American gem expert: b. New York City, Sept. 2, 1856; d. there, June 29, 1932. In 1898 he secured a master's degree at Columbia University and he received a Ph.D. at the University of Marburg, Germany, in 1903. At various periods he was president of the American Scenic and

oric Preservation Society; vice-president of the City History Club; past president and fellow of the New York Academy of Science; past president and Fellow of the American Association for the Advancement of Science; resident of the Museum of Peaceful Arts; past president of the New York Mineralogical Club, 1915; past vice-president of the American Institute of Mining Engineers; Fellow of the Geological Society of America; honorary member of the Uralian Natural History Society of the Ural Mountains; correspondent of the *Histoire Naturelle*, Paris; honorary correspondent of the *Chambre Syndicale Pierres Précieuses*, Paris. He was special agent of the United States Geological Survey, 1882-1909. He was placed in charge of the department of mines at the Omaha, Atlanta, World's Columbian and Paris expositions. He was juror of the Nashville Exposition in 1898 and of the Jamestown Exposition in 1907. Chairman of the Honorary Committee of the Berlin Exposition, 1910; chairman sub-committee on Scientific Exhibits of the Hudson-Fulton Celebration Commission; president of the Joan of Arc Statue Committee. He was third vice-president and gem expert of Tiffany and Company; honorary curator of precious stones in the American Museum of Natural History. He had the decoration of the Order of the Red Eagle, fourth class, of Germany; he was Chevalier of the Legion d'Honneur of France; Officer d'Instruction Publique de France; Knight of Saint Olaf of Norway; Officer of the Order of the Rising Sun of Japan. He wrote annual reports (1882-1905) on the production of precious stones in mineral resources of the United States. He published 200 pamphlets on gems, precious stones, mineralogy, meteorites, folklore and scenic conservation. He published 'Gems and Precious Stones of North America'; 'Precious Stones of Mexico'; 'Gem Materials of California'; 'The Curious Lore of Precious Stones'; 'The Magic of Jewels and Charms'; 'Ivory and the Elephant.' He was also senior editor of the 'Book of the Pearl'; 'Rings of All Ages.' Dr. Kunz was a member of the Century Association, the Union League, Grolier, Mineralogical clubs, and honorary vice-president of the Tuna Club of California. He died 29 June 1932.

KUNZE, koon'tsē, John Christopher, American Lutheran theologian: b. Artern, Saxony, 4 Aug. 1744; d. New York, 24 July 1807. He studied theology in the gymnasiums of Bossleben and Merseburg, and at the Leipzig University. After several years teaching as docent, he came to Philadelphia (1770), appointed associate pastor of the Lutheran church, keeping a theological seminary at the same time and acting as professor of Oriental languages at the Pennsylvania University (1780-84). He became pastor of the Lutheran church at New York in 1784, serving as professor of Oriental languages and literature at Columbia (1784-87) and again (1792-99). He was one of the early advocates of the need of teaching English to German youth, and he aided in introducing the English language in German churches in the United States. He wrote 'A Hymn and Prayer Book for . . . Lutheran Churches' (New York 1795), the first American-published Lutheran hymnbook. Consult Norton, C. E., 'Four American Univer-

sities' (New York 1895); Appleton's *Cyclopædia of American Biography* (Vol. III, ib. 1898).

KUNZITE, koon'tsit, the name of a precious stone found in southern California; so called in honor of Dr. George F. Kunz, the special agent in charge of precious stones, United States Geological Survey, 1883-1909. It is a brilliant gem and is between the topaz and pink sapphire in color. A rose-lilac is the tint which marks this stone, a color new among gems; and its radiance is peculiar and beautiful.

Kunzite was brought to light in 1902 near Pala, in San Diego County, Cal., and was sent for classification to Dr. Kunz, the eminent mineralogist of New York. Much attention was attracted by the beautiful lilac-colored crystals, for nowhere in the country, not even in the American Museum of Natural History at New York, which has the finest collection of spodumene, under which the new gem was classed, had there been seen such remarkable and perfect specimens as these. Dr. Kunz identified the gem and described it; but Dr. Charles Baskerville, professor of chemistry in the University of North Carolina, finally subjected it to ultraviolet light, then to the rays of high penetrative power, and lastly to the bombardment of the corpuscles shooting out from radium, which resulted in some wonderful effects new to the scientific world. Of these effects Dr. Charles Baskerville, who took the liberty of naming the gem "Kunzite," for his friend, gives the following account:

"On examining this gem we directed our attention to discovering the effect of radium on precious stones. It was shown early in the experiments of the French mineralogist, Curie, that many diamonds phosphoresce, that is, glow in the dark, after being exposed to the emanations of radium. All diamonds phosphoresce with radium, as we learned by applying the test to about two thousand gems collected from some fifteen thousand. The gem in which we were particularly interested belongs to the class of spodumene. Mineral spodumene is usually obtained in large opaque whitish crystals, but from time to time small specimens, often richly colored and transparent, are found. The three characteristic varieties of the latter are a clear yellow gem spodumene of Brazil, the green hiddenite, or lithia emerald of North Carolina, and the lilac sometimes found in Connecticut. These are without doubt remnants of large specimens, which must have been elegant. Spodumene is very subject to alteration and has usually lost all its transparency and beauty of tint."

The California spodumene crystals are of a rose-lilac tint, varying with the spodumene dichroism, from a very pale tinge when observed transversely to the prism, to a rich amethystine hue longitudinally. No such crystals of spodumene have ever been seen before, and the discovery is of great mineralogical interest. The crystals have been etched by weathering and have a twinning like the hiddenite variety. When cut and mounted parallel to the base, they yield gems of great beauty. Baskerville, Kunz and Crookes have found this almost as luminously responsive to the action of radium as the diamond.

KUOPIO, Finland, a government in the eastern part of the northern republic, surrounded by the governments Uleaborg, Vasa,

Saint Michel and Wiborg and in the east by the government of Olones. It has an area of about 16,498 square miles, of which over 16 per cent consists of lakes. The chief industries are the fisheries, forestry, agriculture and cattle breeding, also butter production. A considerable amount of iron ore is produced. Pop. 327,573, mostly Finns.

KUOPIO, kü-öp'i-ō, Finland, capital of the government of the same name, situated on Lake Kalla-vesi and on the Kuivola, Kuopio and Isalmi Railway. It is the bishop's seat and has a modern cathedral, fine park, two lyceums and several trade schools and has considerable commerce. Pop. 23,656.

KUR, koor, or **KURA**, koo'ra, Russia, largest river in Transcaucasia, known in ancient days as Kyros. Its source is in northern Armenia, whence it runs, edged in by mountains, flowing in a southeasterly direction through the Soviet states of Georgia and Azerbaijan; it enters an arid steppe and, branching out into several arms, falls into the Caspian Sea. Its course runs for 830 miles and is navigable for steamers for 130 miles up to the junction of the Aras branch. The leasing of the fisheries near Saljany and Boshij Promsyl afford the state 1,000,000 rubles yearly. The most important places along its shores are Ardahan, Akhaltzikhe, Gori, Tiflis and Saliandy.

KURANDA, koo-rän'da, Ignaz, Austrian publicist and statesman: b. Prague, 1 May 1812; d. 4 April 1884. He was the son of a Jewish bookseller, studied in Vienna and did journalistic work on the leading papers at Leipzig, Stuttgart and Brussels. He founded (1841) in Brussels a weekly, *Die Grenzboten*, the editorial offices of which were transferred to Leipzig, where he issued the work, 'Belgien in seiner Revolution' (Leipzig 1846). In the same year his drama, 'Die letzte weisse Rose,' was performed successfully at the Hofburg Theatre, Vienna. In 1848 he was elected member of the Frankfurt Parliament. He went to Vienna and founded the *Ostdeutsche Post*, a political paper conducted with dignity, which lasted till 1866. He was a common councillor and elected member of the Reichsrat in 1867, where he became one of its most noteworthy political orators.

KURDISTAN, koor-dē-stän' (Persian, 'land of the Kurds'), an extensive territory of western Asia, comprehending the greater part of the mountainous region which borders on the western side of the great plateau of Iran or Persia, and stretches westward till it overhangs the low plains of Mesopotamia on the southwest, and reaches the borders of the Turkish vilayets of Diarbekir and Erzerum on the northwest. The surface is very mountainous, and is traversed by lofty ranges with summits reaching above 10,000 feet in height, stretching northwest to southeast. The whole surface on the west of the Persian frontier is drained by the Tigris and the Euphrates and their tributaries. Unless Lake Van is considered as partly within the territory, there are no lakes of any consequence. The mountains are covered with forests of oak and other hard timber. Many of the valleys are under regular culture, with corn-fields, orchards and vineyards. One of the most remarkable vegetables is manna, expressively called in Turkish *Kudret-hal-vassiz*, or the Divine sweet-meat, which is

used as food. Fine horses and oxen are bred and sheep and goats are kept in large numbers.

The Kurds are a stout, dark race, well formed, with dark hair, small eyes, wide mouth and a fierce look. Most of the men are armed using lances, sabres, daggers, muskets and pistols. Many of the tribes are still nomadic. The language is of the same stock as the modern Persian. The great body of the Kurds are Mohammedans. They care little for trade, although they send to Kirkuk, Hamadan, etc., gall-nuts, tobacco, honey, sheep-skins and cattle; obtaining in return coffee, rice, leather and clothing (chiefly cotton goods). Their allegiance to the governing states is but slight. The famous Sultan Saladin was a Kurd. In the terrible massacres of Armenian Christians instigated and carried through by the Turkish government in 1914 and 1915, during the progress of the Great European War, the Kurds took an active and sinister part. It is very difficult to form even an approximate estimate of the whole Kurd population; that portion which is in the territory of the former Turkish empire, namely eastern Turkey, Armenia and Mosul, Iraq, is given as about 1,300,000, and the portion in Persia as about 400,000.

KURDS, koordz, or **KOORDS**, an Asiatic people of Iranian descent dwelling in a section named after them Kurdistan, 'the land of the Kurds,' located in Persia and former Turkey in Asia. They number about 1,700,000 and are nearly all Islamites. They are of mixed character, brave, freedom loving, hospitable, rather shy, and, to some extent, true to their word, on the other hand they have no liking for orderly work, are firmly devoted to bloody revenge and consider a robbery as honorable as an heroic act. They have great family love, the nomads wandering with their tents of black skins or the settlers living in low houses with flat wooden roofs, that serve in summer time as sleeping quarters. Their women have more freedom than is usual among Orientals, going outdoors unveiled, dealing with men without timidity. The girls, as a rule, are given in marriage at from 10 to 12 years of age upon a dower payment. Only the rich and elite have a plurality of wives. For head covering they use the Turkish turban or a globular yellow fur cap; they shave the head generally, wearing only a mustache, the aged alone wearing a full beard. Their weapons are long riders' lances, sabres and pistols; the fighters on foot carry guns, and a dagger in the belt. Their history dates back to the Gutis of ancient Assyria in which empire they appear to have had an independent political position; they were merged with the Medes after the fall of Nineveh. Cyrus subjugated them since which they have been under the domination of the Macedonians, Parthians and Sassanians, successively. After numerous insurrections their chief fortress, Sermaj, was captured, in the 9th century, and reduced by the caliphate of Bagdad, but they appear to have been in the zenith of their power in the 12th century and held sway over the Kurdistan Mountains, and included Khorasan, Egypt and Yemen. The invading Mongolians and Tatars appear to have held them later in subjection. For further facts consult Lerch, 'Forschungen über die Kurden' (Saint Petersburg 1857-58).

Jillingen, *Wild Life among the Koords* (London 1870); Creagh, *Armenians, Koords, and Turks* (London 1880); Sykes, *Kurdish Tribes in the Ottoman Empire* (London 1907); Safrastian, *Kurds: their Origins and History* (London 1928).

KURE, an atoll in the North Pacific, at the extreme northwestern end of the chain of the Hawaiian Islands, 60 miles west of Midway; it is sometimes known as Ocean (not to be confused with the South Pacific island of Ocean, q.v.) and occasionally as Green Island. The United States has jurisdiction over Kure, which was made a responsibility of the Navy Department by Executive Order No. 7299, dated Feb. 20, 1936. Within the atoll's lagoon are two small sandy islets without native population.

KURENBERG, kŭ'rĕn-bĕrk, der von (or DER KÜRENBERGER), a German minstrel of the 12th century. His short love songs belong to the ancient folklore as to their subjects and are composed in Nibelungen stanzas. He came of a knightly family of Austrian origin located either at Linz, Burghausen, or Schala, each of which places had branches of this family. He was the author of *Das Falkenlied*, and of love songs. Although he is regarded as the oldest Minnesinger, he was not the author of the original *Nibelungenlied*.

KURGAN, kŭr-gĕn', Soviet Union, city of Chelyabinsk Region, Russian Soviet Federated Socialist Republic, on the Tobol River due of the city of Chelyabinsk. It is the center of a rich agricultural district with a notably active trade in butter. Agricultural machinery is manufactured in Kurgan. Settlements have existed at the site of the city since prehistoric times. Kurgan is a Russian word meaning "tumulus," "burial mound"; many such mounds in the neighborhood were undoubtedly erected by Neolithic peoples. Pop. (1939) 53,224.

KURIA MURIA, kŭ'rĕ-à mŭŭ'rĕ-à, ISLANDS, a group of five small islands 21 miles off the southeast coast of Arabia, forming part of the British colony of Aden; the aggregate area is 10 square miles. The largest island is Hallaniya, 4 square miles in area. The Arab inhabitants, who number some 2,500, work the islands' guano deposits and engage in fishing. The imam of Muscat ceded the group to Great Britain in 1854 for use as a cable station.

KURIHAMA, kŭŭ'rĕ-à-mà, Japan, a place one mile west of the village of Ūraga where Commodore Matthew Calbraith Perry (q.v.), on July 14, 1853, landed to present the letter of President Millard Fillmore requesting the emperor of Japan to establish diplomatic and trade relations with the United States. This historic event was commemorated by the erection of a monument by the America's Friends Association which was unveiled on July 14, 1901. The Perry Monument, a monolith of Sendai granite, is inscribed in letters of gold penned by the Marquis Hirobumi Ito; it is enclosed by 36 granite posts, linked by ship's anchor chains, in the center of a broad square enclosed by banks faced with stone.

KURIL or **KURILE**, kŭŭ'rĭl, ISLANDS, a chain of 32 small islands in the North Pacific,

extending northeast for nearly 750 miles from Japan to the Kamchatka Peninsula; now belonging to the Union of Soviet Socialist Republics, they were formerly owned by the Japanese, to whom they were known as CHISHIMA. The aggregate area of the islands is 3,944 square miles, and the population in 1945 numbered some 4,500. From north to south, the larger islands are Paramushiro (Paramoshiri), Shimushiru, Uruppu, Etorofu, Shikotan, and Kunashiri; Furubetsu, the administrative headquarters, lies on the northwest coast of Etorofu, the largest island. The Kurils are volcanic in origin; on many of the islands are fissures whence issue jets of smoke or steam, pools of boiling water, and sulphurous deposits. Chachanobori (7,382 feet), on Kunashiri, is the highest peak on these mountainous islands. Coniferous trees and bamboo are plentiful, and bears, sables, and foxes abound; the fisheries are valuable, cod, herring, and pin seals being obtained.

Martin de Vries, the Dutch navigator, discovered the islands in 1634. The northern islands were occupied by Russian fishermen and those in the south by Japanese down to 1875, when the Russian government agreed to surrender all claims in exchange for Japanese withdrawal from Sakhalin (q.v.). During World War II, United States aircraft and warships attacked Japanese fortifications on the islands. The agreement signed at Yalta on Feb. 11, 1945, between the United States, Russia, and Great Britain contained a secret clause (revealed a year later) handing over the Kuril Islands to the Soviet Union after the defeat of Japan; accordingly, Russian forces took possession of them in August, 1945.

KURISCHES HAFF, kŭŭ'rĭsh-ĕs hĕf, large lagoon on southeast coast of the Baltic Sea, reaching from Labiau to Memel (Klaipėda), 60 miles long and separated from the sea by a sand bar called the Kurische Nehrung. A number of rivers are discharged into this lagoon, such as the Dange, Minge, Russ, and Gilge. While navigation is carried on in the Memel Deep, a channel connecting with the North Sea and 20 feet deep and about 1,000 feet wide, this lagoon has little shipping value. The water is fresh, being fed by the above-mentioned rivers and the much larger Niemen.

KUROSHIO, kŭŭ-rŭ-shĕ'ŏ, or **JAPAN CURRENT**, a warm ocean current off the northeast coast of the Japanese island of Hondo; in Japanese the word means "dark blue salt," signifying a black current or stream. An old Japanese map shows the general features of the Northern Pacific, Bering Strait, and islands and its shores quite accurately delineated. Yet this river of warm water in the Pacific Ocean was first scientifically studied and described in 1854 by Lieut. Silas Bent (q.v.), whose statements were in the main confirmed by later investigators. In history, this stream of black brine contributed notably to the peopling of both Japan and America and to its flora and fauna. The first host of invaders from the Asian continent through Korea were aided by it to reach Idzumo and Hiuga, and the second set, or the great drift of humanity, from the Malay world, made good use of the current and landed at many points on the coasts of Japan. The Kuroshio is bent southward, not by impinging on the land, but is prevented from entering the Arctic Ocean by the Bering Strait, which at its deepest is only 30 fathoms, or 180 feet deep, and much less than 50 miles wide, and in it are three islands. Through this opening the

cold water rushes from the icy seas, drawing or pushing the Kuro Shiwo eastward. Though fogs abound, only a little polar ice comes through, with no icebergs, as in the Atlantic Gulf Stream. One curious effect was to supply the Hawaiian Islands with the splendid timber of "Oregon"—a word which ultimately came to mean anything unusually fine and is so used, as an adjective, in the Hawaiian version of the Bible. Consult Perry's 'Narrative of the Japan Expedition' (1857); Rein's 'Japan' (1884); 'Transactions of the Asiatic Society of Japan.'

KUROPATKIN. See KOUROPATKIN.

KÜRSCHNER, kürsh'nër, Joseph, German author and editor: b. Gotha, 20 Sept. 1853; d. on a journey to Huben, 29 July 1902. His first employment was in mechanical engineering, then he studied at the Leipzig University, thereupon (1875) living several years in Berlin. He managed the Stuttgart periodical *Vom Fels zum Meer* (1881-89) and founded *Deutsche Nationalliteratur*; he was appointed literary director of the Deutsche Verlagsanstalt and removed (1893) to Eisenach. He devoted some time to compiling theatrical history, then became editor (1880-82) of *Neue Zeit*, official organ of German dramatical authors and composers, then (1885-86) he edited *Deutsche Schriftstellerzeitung*, etc. After editing several encyclopedias he compiled *Allgemeiner deutscher Literaturkalender* from the fifth to 24th yearly issue. He wrote also 'Konrad Ekhof' (1872); 'Heil Kaiser, dir!' (1897); 'Frau Musika' (1898); 'Kaiser Wilhelm II als Soldat und Seemann' (1902).

KURSK, Russia, a former government bounded by Tchernigov, Ukraina, on the northwest, Orel on the north, Voronezh on the east and Charkov and Poltava, Ukraina, on the south. It covers an area of about 17,937 square miles. It consists of a wide plain framed in by heights which discharge their water by over 400 rivers of which the Seim is chief. It has a population of about 3,133,500, mostly Great Russians, who have, however, adopted many of the customs of the Little Russians, all belonging to the orthodox Greek Church. It is one of Soviet Russia's most fertile areas. The chief industry is agriculture with a large output of wheat, rye, oats, barley, buckwheat, sugar-beets, hemp, etc. It has a great growth of fruit such as apples, cherries and plums; the bee-culture, has, however, declined greatly and its cattle trade is small. Manufactures are inconsiderable, sugar being the most prominent along with oil-pressing.

KURSK, kürsk, Russia, chief city of the former government of Kursk situated on the Seim at the mouth of the Kur River and on several railways. It has 16 orthodox Greek churches, a Lutheran church, priests' and teachers' seminaries, two gymnasias, a high school and a school of geodetics, besides banks, theatre, commercial exchange, etc. Considerable industry is carried on in leather work, steam grinding mills, oil-pressing, pottery, tobacco manufacturing, as well as commerce in grain, tallow, hemp and hemp-oil, and bristles. Pop. 98,794.

KURTH, kërth, Godefroid, Belgian historian: b. Arlon, 11 May 1847; d. Assche, Brabant, 4 Jan. 1916. From 1872 to 1906 he was

professor at the University of Liège, and from the latter year until his death was director of the Belgian Historical Institute, Rome. He was a member of the Academy of the Catholic Religion of Rome, of the Royal Society of Literature of London, of the Dutch Literary Society of Leyden, of the Royal Academy of Belgium and of other societies Belgian and foreign. He was president of the board of administration of the Royal Library, Commander of the Order of Leopold and Knight of the Order of Pius IX. He wrote 'Cato l'ancien'; 'Etude critique sur Saint-Lambert et son premier biographe'; 'La loi de Beaumont en Belgique'; 'Les origines de la civilisation moderne'; 'Les origines de la ville de Liège'; 'Histoire poétique des Mérovingiens'; 'La frontière linguistique en Belgique et dans le nord de la France' (2 vols.); 'Les études franques'; 'L'église aux courants de l'histoire'; 'Clovis' (2 vols.); 'Chartes de l'Abbaye de Saint-Hubert en Ardenne'; 'Notger de Liège et la civilisation au Xe siècle' (2 vols.); 'La cité de Liège au moyen âge' (3 vols.); 'Manuel de l'histoire de Belgique'; 'Abrégé de l'histoire de Belgique'; 'Manuel d'histoire universelle' (2 vols.); 'Notre non national'; 'Mizraïm, souvenirs d'Egypte'; 'La nationalité Belge.' He founded and became first director of *Archives Belges, revue critique d'historiographie nationale*.

KURZ, kürts, Heinrich, German historian of literature: b. Paris, 28 April 1805; d. Aarau 24 Feb. 1873. Of German parents, he studied at Leipzig and Paris, and lived in Munich and Augsburg from 1830, in the latter city publishing a constitutional opposition paper, *Die Zeit*, which caused his incarceration after a few weeks. He next removed to Switzerland teaching German and literature in Saint Gall and was promoted to professor (1839) at Aarau and made librarian also (1846). The rich treasures of the Aarau Library furnished him material for the study and research in German literature. He wrote 'Handbuch der poetischen Nationalliteratur der Deutsche seit Haller' (Zürich 1840; 3d ed., 1859); 'Handbuch der deutschen Prosa von Gottsched bis auf die neueste Zeit' (ib. 1845-53); 'Geschichte der deutschen Literatur' (Vols. I-III, Leipzig 1851; Vol. IV, 1868-72), his greatest work, which reached its seventh edition in 1876. He also edited 'Esopus von Burkard Waldis'; 'Simplicianische Schriften' of Christoffel von Grimmelshausen; Fischart's 'Dichtungen'; Wickram's 'Rollwagenbüchlein.' He edited collective works of Goethe (1867-68) and of Schiller (1867-68) in 12 and 9 volumes, respectively, also of selected works of Lessing, Herder, Wieland, Chamisso, von Kleist and E. T. A. Hoffmann, and compiled 'Die deutsche Literatur im Elsass' (Berlin 1874).

KUS, a semi-wild tribe of Dravidians inhabiting parts of Bengal and Orissa. They are also generally known as Khonds and number over half a million. See KHONDS.

KUSI, koo sē. See COOSY.

KUSKOKWIM, kūs'kō-kwīm, Alaska, the second river in size in the Territory, rising on the northern slopes of Mount McKinley, after a southwestern course of over 650 miles flowing through the wide estuary of Kusk

kwim Bay into Bering Sea, about 200 miles south of the Yukon delta. It is navigable for about 500 miles. The North Fork and South Fork, its two upper tributaries, rise in the Alaska Range near Mount McKinley National Park. The Kuskokwim drains an area of some 48,000 square miles. Bethel, 80 miles from the mouth of the river, is the principal trading station. Indians and Eskimos constitute the majority of the inhabitants of the region. Soon after discovery of gold in the valley of the Kuskokwim in 1901 the valley was dotted with mining camps.

KUSNACHT, kūs'nākt, commune, Switzerland, in Zurich canton, situated on the shores of Lake Zurich south-southeast of Zurich. Pop. (1930) 6,084.

KUSSMAUL, kōōs'moul, **Adolf**, German physician: b. Graben, near Karlsruhe, Feb. 22, 1822; d. Heidelberg, May 28, 1902. He studied at Heidelberg, and in 1847 removed to Vienna, then Prague; in 1848 he became military surgeon for Baden. He became instructor at Heidelberg University in 1855, and was appointed adjunct professor (1857) and professor (1859) and director of the medical clinic and polyclinic at Erlangen. In 1863 he practiced in Freiburg im Breisgau, and in 1876 at Strasbourg. He retired in 1889 and lived at Heidelberg. He made useful researches in epilepsy, and advanced the treatment of diseases of the stomach by usage of the stomach pump. His works include: *Die Farbenerscheinungen im Grunde des menschlichen Auges* (1845), an invaluable work; *Ueber die Behandlung der Magenerweiterung durch eine neue Methode* (1869).

KUSSNACHT, kūs'nākt, village, Switzerland, in Schwyz canton, located at the foot of the Rigi Mountain at the northeast corner of the Lake of Lucerne (Luzern) just east of Lucerne. Climbers of the Rigi set out from here. A fountain has been erected in Küssnacht in memory of William Tell (q.v.), and on the spot nearby where legend states that Gessler was shot is Tell's chapel; there are the ruins of a castle supposed to have been the Gessler abode. Pop. (1951 est.) 4,500.

KUSTANAI, kōō-stū-nī', town, USSR, capital of the Kustanai Region, Kazakh Soviet Socialist Republic, situated on the left bank of the Tobol River 170 miles east of Magnitogorsk. It is the market center for a rich grain-growing area. The principal industries of the town are flour milling and the manufacture of leather products. Kustanai was founded in 1871. Pop. (1939) about 30,000.

KUSTANAI REGION, subdivision, USSR, part of the Kazakh Soviet Socialist Republic, bounded on the north by the Kurgan Region of the Russian Soviet Federated Socialist Republic, on the east by the Kazakhstan, Kokchetav, and Akmolinsk regions, on the south by the Karaganda Region, and on the west by the Aktyubinsk Region of the Kazakh SSR and the Chkalov and Chelyabinsk regions of the RSFSR. The area is 147,648 square miles. The capital is Kustanai (q.v.). Gold is found, but agriculture is the chief occupation of the inhabitants.

KUSTENJA. See **CONSTANTA**.

KUSTENLAND, kūs'tēn-lānt, a former province of southwest Austria, comprising the crownlands of Istria, Görz, and Gradisca. Trieste was the focal point of the administration. The area of Küstenland was 3,077 square miles, and the population numbered about 900,000. Most of it was assigned to Italy after World War I; a small portion went to Yugoslavia, and in World War II that country acquired the greater part of the area, with Trieste being made a Free Territory under the administration of the United Nations.

KUSTRIN. See **KOSTRZYN**.

KUT, kōōt, province (*liwa*), Iraq, in the southeast of the country, bordering Iran. Pop. (1947) 224,792.

KUT-AL-IMARA or **KUT-EL-AMARA**, kōōt'al-ā-mārā, town, Iraq, on the left bank of the Tigris, 100 miles southeast of Baghdad. It is the center of a grain-growing region and a market for carpets made in the vicinity. It is all but encircled by the river, which forms a U-shaped loop here.

In World War I Kut (as it was popularly termed) was the scene of much fighting between the Turkish forces and the British. The latter, under the command of Gen. Sir Charles V. F. Townshend, advanced up the Tigris from Amara toward Baghdad until reaching a point 15 miles below Kut. Here, during Sept. 26-28, 1915, they attacked the Turkish positions defending the town and scored a complete victory after a severe struggle. Townshend pursued the retreating enemy up the river toward Baghdad but was defeated at Ctesiphon on November 21 and was compelled to withdraw. He reached Kut again on December 3, and there, five days later, he was besieged by the Turks. Kut was invested completely for four months, the Turks, poor transport, and the weather proving too strong for a relief expedition that strove to fight its way through to the village. The place was doomed, and on April 29, 1916, after a siege of 143 days, Townshend surrendered to the Turks with 9,000 men. The British loss had been upward of 20,000 men. Operations for recapture of Kut were begun in December. It was at the head of an adequate and well equipped army that Gen. Sir Frederick Stanley Maude concentrated a force on the south side of the Tigris about 7 miles from the village. The whole position was in his hands on Feb. 23, 1917, when he marched on Kut, which passed into possession of the British once more. The Turks retreated with all speed toward Baghdad, 24 miles up the river. See **WAR, EUROPEAN — TURKISH CAMPAIGNS** (9).

KUTAHYA or **KUTAHIAH**, kū-tā-yā', town, Turkey, capital of a vilayet of the same name, on the Porsuk (Pursak) River 65 miles southeast of Bursa. Built on the site of the ancient *Cotiacum*, the town contains the ruins of Byzantine fortifications and numerous baths. It is in the center of a fertile agricultural area. Highly decorative faience is made here, but the former thriving potteries are mostly extinct. There is a trade in wool, goats' hair, opium, carpets, and meerschaum. A treaty between Turkey and Egypt was signed here on May 14, 1833; and it was here that Lajos Kossuth (q.v.) was interned during 1850-1851. Pop. (1945) 17,939.

KUTAIISI, kōō-tā'i-sī, or **KUTAIIS**, kōō-tū-ēs', city, USSR, in the Georgian Soviet Socialist Republic, on both banks of the Rion River 65 miles northeast of Batum. Its magnificent cathedral of Georgian architecture, dating from the 11th century, was laid in ruins by the Turks in 1692 and has not been restored. The city is served by a branch line of the railroad between Tiflis and Poti. Coal and iron are mined in the vicinity, and the district is famous for its silk, fruits, and vines. Hydroelectric power from the Rion has made the city of great industrial importance. Trucks and automobiles are manufactured, and there are numerous textile and tobacco factories. Known to the ancients as *Alea*, Kutaisi was the capital of Colchis; and, from 792, of Imeritia. At various periods it was ravaged by the Persians, Mongols, and Turks. The Russians occupied it in 1773, and it became the capital of a government in Transcaucasia having an area of 8,145 square miles and a population exceeding 1,000,000. In 1939 the city had a population of 81,479, but this was greatly increased during World War II.

KUTCHIN, kŭ-chīn', a name given to the tribes of the Athabaskan Indians who live near the Yukon in Alaska, and in the Yukon and Northwest Territories down to the lower Mackenzie Valley. They are also called Loucheux and Quarrelers. They number less than 2,000. They are very fond of games and athletic contests, and are of a hardy, manly, and warlike disposition. They are among the most hospitable of the Indian tribes of the American continents. Guests are entertained for weeks and even months at a time. Property is carefully recognized by the Kutchin, and the chiefs, medicine men, and those in general who possess wealth or rank, or both, have several wives. They have somewhat complicated religious ceremonies and myths, and the medicine men possess very great authority, exceeding that of the chiefs.

KUTNA HORA, kōōt'nā hō'rā, town, Czechoslovakia, in the province of Bohemia, 45 miles southeast of Prague (Praha); the German name for it is KUTTENBERG. Numerous churches include the beautiful unfinished Saint Barbara Church of the 14th and 15th centuries, in Gothic style, and the Saint Jacob's, with its high tower. The old royal Wälsche (Welschen) Hof of the 13th century and its beautiful chapel, as well as the mint (once the residence of the kings of Bohemia) are notable structures. The old Headek castle has been converted into a Czech teachers' seminary. The town's industries consist of fruit and vegetable raising, sugar and alcohol factories, a brewery, machine works, an iron foundry, and an organ factory. The foundation of Kutna Hora originated from the discovery of silver ore in the vicinity. Silver mining flourished in the 13th century, when the town rapidly expanded. Captured by the Hussites in 1422, the town suffered severely in the struggles that ensued. Subsequently it recovered its prosperity, but it was again ravaged in the Thirty Years' War (1618-1648). Pop. (1930) 13,900.

KUTUZOV, kōō-tōō'zōf, **Mikhail Ilarionovich**, PRINCE OF SMOLENSK, Russian field marshal: b. Saint Petersburg, Sept. 16, 1745; d. Bunzlau, Germany (later Bolesławiec, Poland), April 28, 1813. He fought against the Poles (1764-1769)

and the Turks (1770-1774), losing an eye in the Crimean campaign of 1774. For some years he dwelt abroad, and in 1784 he was made major general. He was appointed governor general of the Crimea in 1787, and he fought with distinction under Count Aleksandr Vasilievich Suvorov in the Turkish War of 1788-1791, particularly at the sieges of Odessa and Bendera and the battles of Rimnik and Mashin. In 1793 he was appointed ambassador to Constantinople and later ambassador at Berlin. After the assassination of Czar Paul I in 1801 he was appointed governor general of Saint Petersburg, for a while going thence to his estates in Volhynia. In 1805 he was given command of the 1st Army Corps for the war against Napoleon. He gained a signal victory, on November 18 and 19, over Marshal Édouard A. C. J. Mortier at Dürrenstein, and commanded, under Czar Alexander I, on Dec. 2, 1805, the allied armies in the Battle of Austerlitz, where he was wounded for the third time. From 1806 to 1811 he was governor general at Kiev, then at Vilna, then becoming commander in chief in the Russo-Turkish War; for his services he was created a prince. After the Peace of Bucharest (May 28, 1812) he succeeded Prince Mikhail Barclay de Tolly as commander in chief in the army against Napoleon. He fought the bloody Battle of Borodino (q.v.), Sept. 7, 1812 and became field marshal. He was granted the title Smolensky for his victory over the French at Smolensk. Calling on all Europe by proclamation, he carried on the campaign; but he died early at Bunzlau, where a monument was erected in his memory.

KUTZING, kŭt'sīng, **Friedrich Traugott**, German botanist: b. Rittberg, near Artern, Dec. 8, 1807; d. Nordhausen, Sept. 9, 1893. He studied natural science at Halle, was appointed (1838) teacher of natural science at the high school at Nordhausen, retiring in 1883. He wrote and studied on the algae species specially, establishing a new epoch in the knowledge of the subject. His most important work is *Grundzüge der Philosophischen Botanik* (Leipzig 1851-1852), in which he fought against the theory of stability of the species and advocated spontaneous generation.

KUWAIT or **KUWEIT**, kōō-wit', sheikhdom, Arabia, at the head of the Persian Gulf between Iraq and Saudi Arabia; in part it is separated from the latter by a neutral zone having an area of 2,250 square miles. The sheikhdom has an area of 1,930 square miles and a population estimated to number 100,000. Al Kuwait (pop. 35,000), the capital, is a seaport 80 miles south of Basra. There are valuable pearl fisheries; dhows are built, dates are cultivated, and horses, donkeys, and sheep are raised. Petroleum deposits, subsequently put at 9 billion barrels, were discovered in 1938; the Kuwait Oil Company is owned jointly by the Anglo-Iranian Oil Company and the Gulf Exploration Company, of Pittsburgh, Pa. Kuwait and Saudi Arabia agreed in 1947 to share the income from oil produced in the neutral zone by United States concessionaries. American oil companies have developed for their staffs a new town named Ahmedi, 15 miles from Al Kuwait. The sheikhdom, founded in 1756, came under British protection in 1914.

KUYP, Albert. See CUYP, ALBERT.

KUYPER, *koi'pēr*, **Abraham**, Dutch Protestant theologian and statesman: b. Maasluys, Oct. 29, 1837; d. The Hague, Nov. 8, 1920. He held pastorates from 1867 until 1874, when he was elected to the legislature. In 1886 he formed the Free Reformed Church. He was leader of the Anti-Revolutionary Party in the lower house and editor in chief of *De Standaard*. His books included *Calvinism and Art* (1893); *Pantheism* (1893), and *Calvinism: The Origin and Safeguard of our Constitutional Liberties* (1895). He became prime minister in 1901, and until 1905 he served as minister of the interior. From 1913 he was a member of the upper house of the legislature.

KWAJALEIN, *kwōj'a-lin*, an atoll of the Marshall Islands, Pacific Islands Trust Territory of the United States, in the central part of the Ralik Chain 2,415 miles southwest of Pearl Harbor, Hawaiian Islands. The atoll has a length of some 78 miles; there is excellent anchorage in the lagoon. The chief of the 18 islets are Kwajalein, at the southeast end, and Roi and Namur at the northern end of the lagoon. When the Marshalls became a Japanese mandate after World War I Kwajalein was strongly fortified. In 1944, during World War II, United States forces assaulted and captured the atoll.

KWANGCHOWAN, *gwāng'jō'wān'* (French *KOUANG-TCHÉOU-WAN*, *kwān'chā-ōō'wān'*), Chinese territory formerly leased to France and administered with French Indochina. It is on the southwest coast of Kwangtung Province, some 270 miles west of Hong Kong. The area of 325 square miles comprised a narrow strip along the eastern side of the Luichow Peninsula, leased in 1898, two large islands leased the following year, and several islets. The lease, which was for 99 years, permitted the French to construct a railroad into Chinese territory and give them exclusive mining rights in contiguous effectures. Fort Bayard, the French administrative center, resumed its Chinese name of Chang-shih after France returned the leased territory to China in 1946; it has an excellent harbor.

KWANGSI, *kwāng'sē*, province, China, in the southern part of the republic, bounded on the north by the provinces of Kweichow and Hunan, on the east and south by Kwangtung Province, on the southwest by Tonkin (northern area of Viet Nam, French Indochina), and on the west by Yunnan Province. The area is 83,985 square miles, and the population is 14,861,000 (1947 est.). The greater part of the province is mountainous. The lengthy Si River (Si-kiang) passes through the eastern part of Kwangsi, and among its tributaries which water the province are the Yang (Yu), Hungshui, and Kwei. It is one of the least developed of China's provinces. Vast forests yield such products as cassia, camphor, cinnamon, and wood oil, and rice is cultivated on considerable scale in the river valleys. Among other crops are corn, sugar, and tea. Silk and cotton textiles are manufactured in limited quantity. Yungning (Nanning), a river port on the left bank of the Siang in the southwest part of the province, is the capital.

KWANGTUNG, *gwāng'dōōng'*, province, China, in the southeast part of the republic, bounded on the north by the provinces of Hunan

and Kiangsi, on the northeast by Fukien, on the east and south by the South China Sea, and on the west by Kwangsi Province. The area is 83,918 square miles, and the population numbers 32,339,000 (1947 est.). The Meiling (Ta Yu Ling) Mountains are along the northern border. The principal rivers are the Si (Si-kiang), Peh (Pei), Tung, and Han. Hainan is the chief of several islands along the coast, and there are others in the delta of the Si. Canton, the chief port and city of southern China, is the capital. Rice, tea, sugar, tobacco, and fruit are extensively cultivated; manufactures include silks, lacquered ware, pottery and embroidery.

KWANTUNG, *gwān'dōōng'*, or **KWANTUNG LEASED TERRITORY** (also **KWANTO**, *gwān'dō'*), territory of northeast China, in southern Manchuria, consisting of the southern part of the Liaotung Peninsula. The area is 1,444 square miles, and the population numbers 1,750,000 (1938 est.). Dairen (Dalny, Talien, Talienwan), the capital, has one of the finest harbors on the coast of east Asia. Port Arthur (Ryojun, Lüshunkow), 20 miles west of Dairen, is a naval base of great strategic importance. The South Manchuria Railway connects these places with the railroad systems of both China and the Soviet Union. In 1898 China was compelled to lease the territory to Russia, and in 1905, after the latter had been defeated in the Russo-Japanese War, Japan assumed the lease. The lease to Japan was extended in 1915 to 99 years, but this came to an end in 1945 when the Japanese were defeated in World War II. In that year Russia once more secured Kwantung Leased Territory by treaty with the Chinese government of Chiang Kai-shek, but a Sino-Soviet treaty made in February 1950 recognized Manchuria as an integral part of the Communist-dominated Chinese People's Republic and provided that Port Arthur should revert to China on the signing of a peace treaty with Japan or not later than 1952; the status of Dairen was to be considered when that treaty was negotiated.

KWEICHOW, *gwā'jō'*, province, China, in the southern part of the republic, bounded on the north by Szechwan Province, on the east by Hunan, on the south by Kwangsi, and on the west by Yunnan. The area is 69,278 square miles, and the population numbers 10,557,000 (1947 est.). For the most part, the surface of the province is an elevated plateau, which is watered by tributaries of the Yangtze (Yangtze Kiang) and the Si (Si-kiang). The forests yield valuable timber. Copper and mercury deposits have been exploited, but other mineral resources are largely undeveloped. There is little agriculture. Cattle are raised, and also horses of high grade. Many aboriginal peoples, notably the Miao, still are found in areas remote from large centers of population. Kweiyang (Kweichu), the capital, lies 220 miles south of Chungking.

KYD or **KID**, *kīd*, **Thomas**, English dramatist: b. 1557?; d. ?1595. As a playwright he was one of the most important of the precursors of Shakespeare, but little was known concerning his troubled career until the closing years of the 19th century. The son of Francis Kyd, a Londoner, he was enrolled at the Merchant Taylors' School late in 1565. After leaving school he entered his

father's profession of scrivener. He was greatly influenced by Seneca and Lyly. As far as known at present Kyd brought out his 'The Spanish Tragedie containing the Lamentable End of Don Horatio and Bel-imperia; with the Pitiful Death of Old Hieronimo' in the period between 1584 and 1589. For over 60 years 'The Spanish Tragedy' was the most successful play on the English stage and long retained its great popularity. A prologue was added in 1592 entitled 'The First Part of Hieronimo, or The Warres of Portugal' (first printed in 1605). It is now believed on good ground that Kyd was the author of the original draft of the tragedy of Hamlet, Prince of Denmark, which was drawn upon extensively by Shakespeare. Another work of Kyd, 'Soliman and Perseda' appears to have been written about 1588. In 1590 or thereabouts Kyd abandoned his career of playwright and entered the service of a lord who kept a troop of players. Boas thinks this lord was Robert Radcliffe, 5th earl of Sussex. Kyd dedicated his translation of Garnier's 'Cornelia' to the Countess in 1594. Other works of Kyd are 'The Householder's Philosophy' a translation from Tasso, and 'The Most Wicked and Secret Murdering of John Brewer, Goldsmith' (1592). Other works are lost with the exception of fragments. When Marlowe was arrested in 1593 for his "lewd libels," some of Kyd's papers were found among his effects and the latter was also arrested. When papers at his house were examined there was discovered one of "vile heretical conceits denying the deity of Jesus Christ." Kyd was tortured at Bridewell, but maintained his innocence and blamed Marlowe for his predicament. Released after a time, he was abandoned by his patron and died in destitute circumstances. Kyd's importance in the literature of his period lies not in any inherent excellencies of his verse but rather in the fact that he was a pioneer who exerted a marked influence on Ben Jonson, Fletcher and Shakespeare. Consult the collected edition of Kyd's works with biography edited by F. S. Boas (Oxford 1901); Manly, J. M., 'Specimens of Pre-Shakespearean Drama' (Vol. II, Boston 1897); edition

of 'The Spanish Tragedy' by Schick (in 'Temple Dramatists,' 1898); Sarrozin, 'Thomas Kyd und sein Kreis' (Berlin 1882); Ward, 'History of English Dramatic Literature' (Vol. II, London 1881).

KYMRY. See CYMRI.

KYNETT, kī'nēt, **Alpha Jefferson**, American clergyman: b. on the site of the battle of Gettysburg, Pa., 12 Aug. 1829; d. Harrisburg, Pa., 23 Feb. 1899. His people moved to Iowa in 1842. He was a self-educated man and taught for sometime in the public schools. In 1852 he entered the ministry of the Methodist Episcopal Church, uniting with the Iowa Conference, becoming a charter member of the Upper Iowa Conference in 1856. After 12 years in the pastorate he became secretary of the Church Extension Society of the Methodist Episcopal Church in Philadelphia in 1866 and served until his death. It was through his influence that the society was organized in 1864. Its headquarters were located in Philadelphia. He was a member of eight General Conferences, beginning with 1864. During the Civil War he was on the staff of Governor Kirkwood and was active in recruiting several regiments as well as in the Sanitary and Christian commissions. Under his management the Church Extension Society aided over 11,000 churches to erect edifices to the extent of nearly \$6,500,000, which was mostly raised by church collections.

KYRIE ELEISON, kīr'i-ā ā-lā'i-sōn (from the Greek *Kyrie eleēson*, "Lord, have mercy"), an invocation following the Introit of the Mass. It is almost the only part of the liturgy in which the Roman Catholic Church has retained the use of Greek words. Just after the Introit the priest celebrating the Mass and the servers repeat alternately three times "Kyrie eleison," and then as many times in the same manner, "Christe eleison," and so on alternately. When it is sung the leading singer takes the part of the priest, and the choir that of the servers. The introduction of the Kyrie into the Mass is attributed to Pope Sylvester I, in the beginning of the 4th century.



L This letter was the 12th in order in the North Semitic alphabet from which the Greeks took their written symbols. As a result of various rearrangements of the order, it stands 2d in the Ethiopic (South Semitic) and 23d in the Arabic scripts respectively; and as the result of various additions and omissions, 13th in the Cyrillic (Old Church Slavonic), 12th once more in the Latin (which has dropped *θ*, but added *g*)—and hence in modern western European scripts; and also 12th in the modern Russian (which has dropped two intervening symbols (*ds, i*); and added *Н* for consonantal *і*; both Cyrillic and Russian having *у* after *б*). In early alphabets—Cretan, North Semitic, Greek, and Italic—the posture of the letter varies, namely, *λ* and *λ*, or, with a sharp angle *λ* or *λ*. This is probably a result of an early style of writing, known technically as serpentine *boustrophedon*, in which the direction of writing, instead of being fixed either right to left or left to right, was changed in alternate lines (*boustrophedon*), that is, *λ* or *λ*, and also the posture of the letters inverted, that is, *λ* or *λ*—probably at first merely a matter of convenience in cutting letters with hammer and chisel on a slab of stone. Then the one position or the other was stabilized, and the Eastern Greek alphabets (from which Attic is descended) took *λ*, later *Λ*; the Western (from which Latin comes) took *λ*, later *L*. One curious consequence is that in Italic alphabets, the convention was established of distinguishing *l* and *v* (*υ*) by means of this very device, so that those which have *Λ* or *λ* or *Λ* for *l*, use *λ* or *υ* for *v* (*υ*) and vice versa. In Latin cursive *L* came to be written *λ* or *λ*, whence the common form *l*. As for *L* with the numerical value 50 in Roman numerals, this is not the letter *L*, but is an adaptation of the western Greek *λ* = *λ*. Like the other aspirate symbols, this also was superfluous as a letter, since Latin properly had no *λ*-sound. Accordingly it was diverted to a different value, and altered successively to the shapes *λ*, *λ*, and *L*.

The Semitic name of the letter was *lamd* or *lamed*, and its apparent meaning "ox-goad," which agrees well enough with its ancient shape. From *lamd* comes the Greek *labda* or *lambda*, the former showing an assimilation of *b* to *d*, the latter an inserted glide *b* between *m* and *d*, the better to accord with Greek habits of utterance. It has suggested that the odd name *Labda*, recorded by Herodotus as the name of the mother of the Corinthian Cypselus, may be due to the circumstance that she was lame and thus recalled the form of the letter (*λ*) in use at Corinth, the suggestion is fanciful.

The sound denoted by *l* is commonly produced by the vibration of one or both sides of the tongue, the median line of the mouth being closed by contact of the tongue with the upper part of the

mouth. Hence, depending on the position of the contact, various forms of lateral consonants (*l*) are produced. These may be either breathed or accompanied by voice. The former type, which is the rarer, occurs in modern Welsh (written *ll*, for example, *llan* "parish, church"); this Welsh *l* is also unilateral, being produced by a majority of Welsh speakers on the right side of the mouth. Ancient Greek also had for a time a breathed *l*, written (in inscriptions) *λh*. When the front part of the tongue is in contact with the hard palate we have the Italian sound written *gl* (a palatal *l*), or the *ll* of Castilian Spanish. A velar *l* (with the back of the tongue forming an occlusion against the soft palate) occurs in association with back vowels or some consonants (other than palatal *l*). It is sometimes heard in English *milk*, *vulgar*. The alternation of palatal with velar *l* is responsible for such apparent "irregularities" as Latin *uolle* "to wish," or *uelim* (present subjunctive), but *uolo* "I wish," *uult* "he wishes." A velar *l* tends to be lost; hence in *calf*, *half*, *almond*, *qualm*, *should*, *would*, the lateral consonant *l* has disappeared, not without effecting modifications of the preceding vowel. So too in *chaud* (Latin *calidum*), French *autre* (Latin *alterum*), Sicilian *auto* (Italian *alto*), a change that appears also in Italic, as Umbrian *muta* "penalty," Latin *multa*. Modern spoken Polish has converted a velar *l* in some positions, for example, *Lodz*, into a consonantal *u* (like English *w*), and this also was an Umbrian change (*vaper*—beside Latin *lapid-is*). Dutch has *koud* "cold," like the northern English dialects. Ancient Cretan had *καυλός* for *χαλκός* "bronze."

Other common alternations are *d*: *l* (Latin *lacrima* "tear," for an older *dacruma*, compare Vedic Sanskrit *ile* "I praise," for *ide*), *l*: *r* (Sanskrit *rinakti* "he leaves" beside Latin *linquit*; English *pilgrim*, French *pèlerin* from *peregrinum*). Old Persian regularly substituted *r* for *l*, and native speakers of Chinese find difficulty in distinguishing European *r*, *l*. Similarly *r*: *d* appears in Spanish *rado* from Latin *rarum*.

A syllabic *l* (written *le*) occurs in English *shimble*, *little* and similar words; an approximation to *ul* is often heard in its place, and that writing is standard in *sepulchre* and a few other words. Again English has only a short ("single") *l* for the writing *ll* (*villa*, *tell*, *skull*); contrast the Italian pronunciation of *villa*.

The abbreviation *£* (pound sterling) stands for Latin *libra* "pound." For bibliography see article A. See also ALPHABET.

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LAAGER or **LAGER**, *lä'gër* (Dutch, "a camp"), in South Africa, an encampment more or less fortified. The original Boer laager was an enclosure formed by the wagons of a traveling party for defense against enemies.

LAAR or **LAER**, lār, Pieter van (called **IL BAMBOCCIO**) Dutch genre painter: b. Haarlem, Netherlands, July 30, 1592; d. there, June 30, 1642. Early in life he went to France, and subsequently visited Italy (1623). Here he mainly resided at Rome, where he became associated with Claude Lorrain and Nicolas Poussin. He was small and crooked in stature and was thus called by the Italians "Bamboccio," and the comic scenes of rustic life painted in his style became known as "Bambocciads." He returned to Haarlem in 1639. He painted pastoral and banditti scenes, fairs and such rural incidents, with spirited and vigorous brush, although his coloring is somewhat hard. A masterpiece of his, *The Market Crier*, is in the gallery at Kassel. *The Departure from the Inn* and *The Shepherds* are in the Louvre, Paris. Other pictures of his are to be found at London, Dresden, Vienna, and Munich. About 20 etchings from his hand are also extant, chiefly animals and landscapes, which are spirited and finely executed.

L'ALLEGRO, lā-lā'grō. 'L'Allegro' and 'Il Penseroso' (q.v.) are companion poems by Milton. They are assigned to the period (1632-38) after his life at Cambridge, in which he retired to his father's house at Horton, Buckinghamshire, for study and reflection. That is, they were written about the same time as 'Comus' and 'Lycidas,' just before Milton's travels and some time before his prose writings and most of his sonnets and his greater poems. They are really poetic exercises; the young poet expresses his thoughts on life in the forms common in the literary poetry of the day. The two poems are companion pieces; 'L'Allegro' gives the gay or cheerful mood or humor, while 'Il Penseroso' gives the contemplative mood. They give their ideas in much the same way: each begins by driving away the mood opposed to the subject of the poem; in 'L'Allegro' it is "loathed Melancholy." Each goes on with an invocation, as one may say, to the goddess of the mood; "Thou Goddess fair and free, in Heaven yclept Euphrosyne, and by men heart-easing Mirth." The main part of each poem, however, presents the mood of the poet by describing a characteristic day; in 'L'Allegro' the poet is waked by the lark, hears the huntsman on the hill and the plowman nearer by, takes a country walk and joins the youths and maidens of the upland hamlets in their merry-making, he goes home and spends the evening in reading and music, or, according to another interpretation, he goes to town and enjoys the gay life of society. The poem is to the average mind old-fashioned and formal; it is classic in form and allusion and has little in it that seems inspired by deep poetic feeling. But on the other hand each word and phrase is so full of meaning and so characteristic of the poetic mood that it makes a definite place in the mind of every lover of poetry. Some other general considerations are noted under 'Il Penseroso.' There are a good many editions of Milton's Minor Poems, mostly made for school purposes. The first volume of Masson's edition of Milton or Verity's edition of the Minor Poems may be especially noted.

EDWARD E. HALE.

L'AMI FRITZ, lā'mē frīts ('Friend Fritz'), published in 1864, formed for Erck-

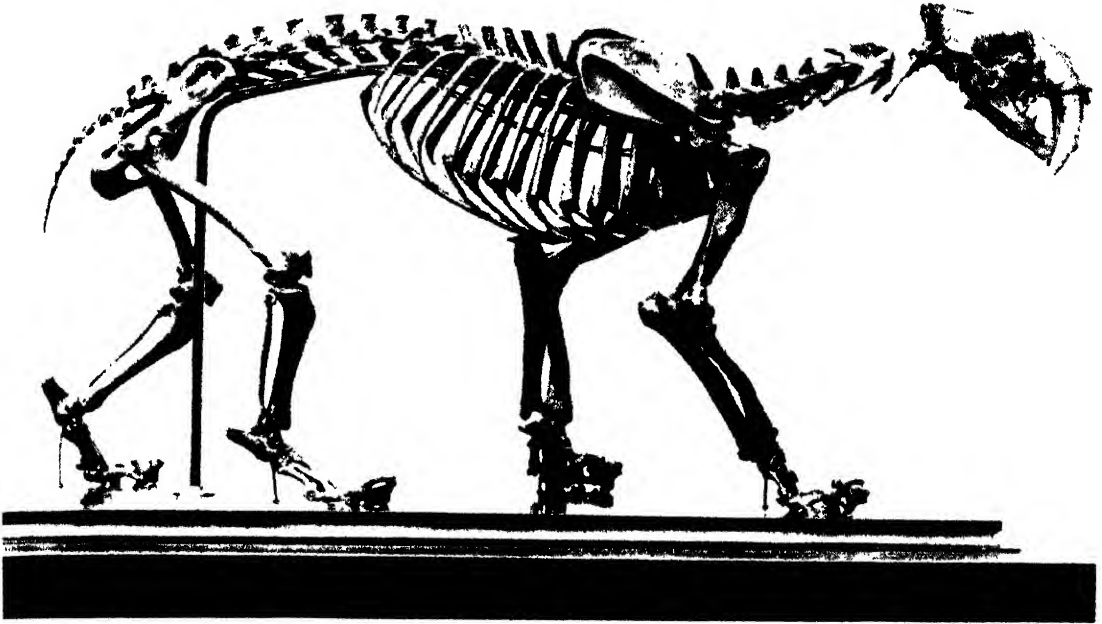
mann-Chatrion a restful interlude between two stirring patriotic novels, 'Le Conscriit de 1813' (1864) and 'Waterloo' (1865). Indirectly it is like them a plea for quiet living, toleration, peace and concord between nations and between religious confessions as well. The scene, significantly for one writing in the year of the Austro-Prussian attack on Denmark for Schleswig-Holstein, is laid in an idealized Bavarian Highlands. The time is about 1850. The theme is an epicurean idyl, the unobtruded moral that the shortest road to a middle-aged bachelor's heart is by way of his stomach. Seldom have the joys of eating and drinking been so affectionately dwelt upon in fiction. As the story opens, Fritz Kobus, a well-to-do bachelor of 36, rejoicing in his freedom, jests at the matrimonial counsels of his father's friend, the genial old Rabbi Sichel, a matchmaker by instinct and predilection. How in the next two years Fritz comes, step by step, and unconsciously almost to the last, under the spell of Suzel, the ingenious, charming and housewifely young daughter of his anabaptist tenant farmer Christel, is told with rare quiet humor and genial irony. With modifications, natural after the Franco-Prussian War of 1870, 'L'ami Fritz' was dramatized by its authors in 1876. The play was very popular and has been translated as 'Friend Fritz.'

BENJAMIN W. WELLS

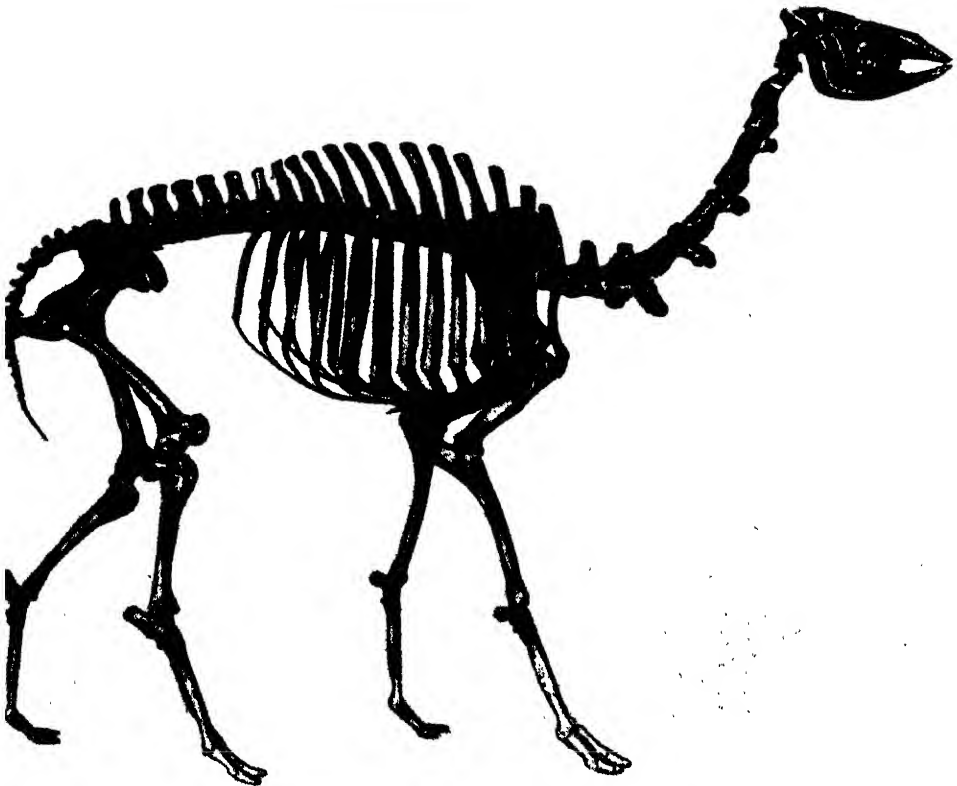
L'ASSOMPTION, lā'sōn'syōn', Canada, village and capital of L'Assomption County, Quebec, 23 miles northeast of Montreal, on the Canada National Railroad. L'Assomption College is located there and the village is also the site of a Roman Catholic convent and hospital. It has several manufacturing industries. Pop. (1931) 1,576.

LA BALLERINA, lā bāl'lēr'ina (The Ballet Dancer). This short realistic novel, by Matilde Serao, which first appeared in the *Nuova Antologia* (No. 165, 1899), and then in the form of a novel (Catania, 2 vols., 1899) portrays the trials of a poor young Neapolitan girl, Carmela Menino, in her efforts to earn a livelihood in the rank and file of the ballet dancers employed at the San Carlo Theatre in Naples and at other resorts in the vicinity. The interest of the romance centres in the description of the sinister conditions that prevail rather than in the characters themselves, which are of secondary importance and whose sensuality and material needs furnish the dominating motive of their every action. In the case of the heroine of the novel, Carmela Menino, however, it is not sensuality, but a kind of religious sentimentality, together with her poverty, which is the mainspring of her conduct in life. This sentimentality is the cause of her fetich worship for her godmother, the ballet artist, Amina Boschetti, and of her loyalty to the memory of the latter years after her death. It also figures prominently at the end of the novel in the night watch of Carmela Menino at the bedside of the prodigal suicide, Count Ferdinando Terzi di Torregrande. The entire descriptive material is characterized by that vividness and realism displayed in the best of the author's earlier books. 'Il paese di Cuccagna,' 1891 ('The Land of Cockaigne'), showing those keen powers of observation which have placed Matilde Serao

LA BREA



Sabre-tooth cat (*Felix atrox*).

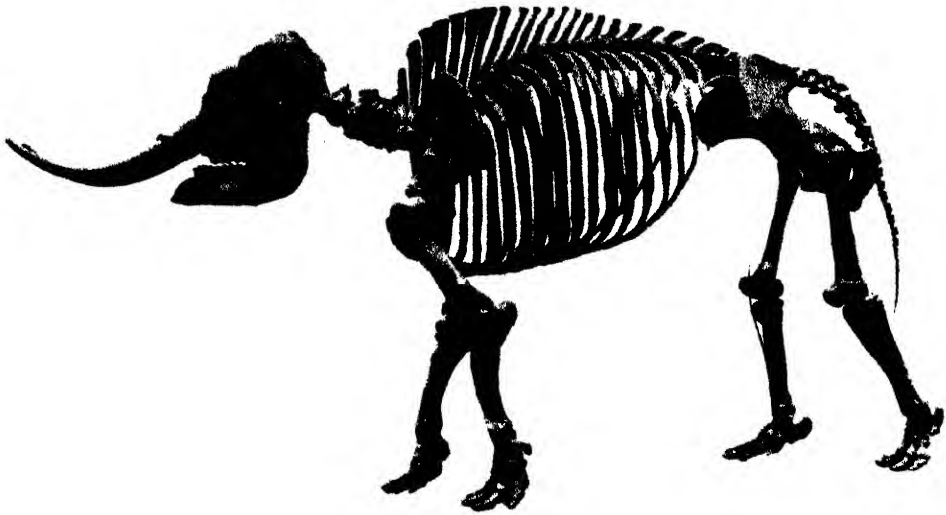


By permission, Los Angeles County Museum, Exposition Park

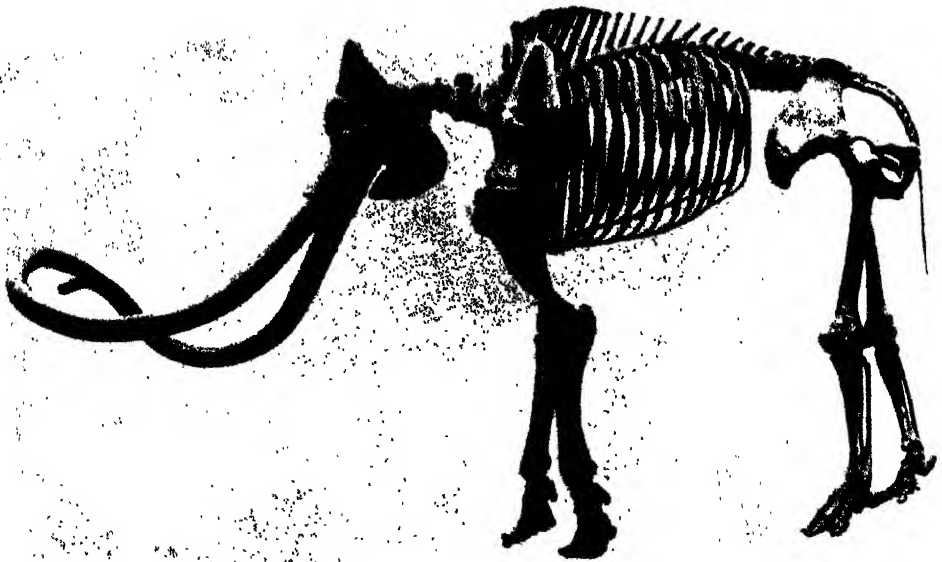
Camel (*Camelops hesternus*).

EXTINCT GIANTS PRESERVED IN THE ASPHALT LAKE, LA BREA RANCHO, LOS ANGELES, CALIF.

LA BREA



American mastodon (*Mammut americanum*)



Imperial elephant (*Archidiskodon imperator*).
EXTINCT GIANTS PRESERVED IN THE ASPHALT LAKE, LA BREA RANCHO, LOS ANGELES, CALIF.

By permission, Los Angeles County Museum, Exposition Park

the front rank of the contemporary writers of fiction in Italy. Among the salient features early drawn in 'La Ballerina,' three stand out conspicuously: (1) The rottenness of the entire ballet system as carried on in Naples. So vivid and effective is the description of the ballet conditions, analagous to that of the lottery system in 'Il paese di Cuccagna,' as to create a strong impulse on the part of the reader never to lose an opportunity, if ever one be presented, of doing his best to purge the entire system. (2) The very important rôle that sentimentality plays in the life of the Neapolitan youth of both sexes, nullifying the possible advantages which the use of ordinary common sense would, in all likelihood, provide. The well-nigh uncontrollable desire of the youth of Naples to pose continually as millionaires is exposed so forcefully as to bring out strikingly the absurdity of creating so false a situation. (3) The distinction between the feeling of reverence, akin to love, as seen in Carmela Menino's life, and the varied and multitudinous congeners of love as seen in the lives of the sensual ballet personnel of which Carmela Menino is one of the links. The insane relations between the ballet dancers and their sentimental lovers contrast rudely with the sincere sentimental loyalty and worship, not, however, very well accounted for by the author, shown by Carmela Menino toward the victim of the suicide with which the romance ends, thus producing a strong revulsion from the false pleasures of life. Together with 'Addio amore' ('Good-bye Love') and 'Dopo il perdono' ('After the Pardon'), 'La ballerina' is among the best of the author's later novels. A translation of it was published in England without the translator's name, and issued in London 1901. JAMES GEDDES, JR.

LA BARCA, là bär'kä, Mexico, town in the state of Jalisco, east of Lake Chapala, and 60 miles southeast of Guadalajara, on the International Railroad between that city and Mexico. The town was founded in 1529 by Nuño de Guzmán, and during the Mexican war for independence the town was the scene of two serious battles. Pop. 7,437.

LA BARRACA, là bär-räk'ä ('The Farmhouse'), a novel by Vicente Blasco Ibáñez (q.v.). In 'La Barraca,' the agrarian problem existing in the territory about Valencia engages the attention. First published in 1898, his work soon made its way into French and, appearing as 'Terres maudites' in the *Revue de Paris* in 1901, it established the author's fame abroad and brought him more note at home. With a sure eye and a firm hand, Blasco Ibáñez has outlined for us, on the background of the *huerta* or suburban district of Valencia, types of character such as Pimentó, the local bully, and Batiste, the industrious small farmer. Batiste has the misfortune to take up a farm from which the avaricious landlord had evicted the previous tenant and upon the occupancy of which the people of the *huerta* had put a ban. The result is the boycotting and ruthless persecution of Batiste by the *huerta* under the leadership of the worthless bravo, Pimentó, the killing of Pimentó by Batiste in defense of his own life, and the burning of Batiste's farmhouse by his neighbors. In the face of a systematic boycott the honest,

home-providing Batiste has no redress, and he must depart sadly to try his fortunes elsewhere.

JEREMIAH D. M. FORD.

LA BARRE, là bär', Antoine Joseph Le-fèvre de, French sailor: b. about the beginning of the 17th century; d. 4 May 1688. He rose to early prominence as an officer of the French navy, and was appointed governor of Guiana in 1663. He was successful in recapturing Cayenne (1667), which had been occupied by the Dutch. On being commissioned lieutenant-general he sailed for the West Indies, and, in a fight with the English in the Antilles, compelled them to raise the blockade of Saint Christopher. Succeeding Frontenac as governor of Canada in 1682, his irresolution in his negotiations with the Indians was so disastrous that he was recalled in 1685. He obstructed La Salle in his western explorations.

LA BREA, Los Angeles, Cal., a park, west of and within the city limits, on an almost level area bordered by the Santa Monica Range to the north. It is famous as the site of the "La Brea Tar Swamp," a prehistoric petroleum "trap" which has contributed to paleo-zoology the most extraordinary remains of extinct animals ever discovered. Major Hancock, then owner of the ranch on which the pool was located, as early as 1875, was presumably the first person to take particular notice of the bones in the asphalt, William Denton in that year mentioning a canine of the large sabre-tooth tiger received from him. After the definite discovery of the historical value of the deposits in 1906, excavation work was carried on by the University of California, and within a space of about 1,400 feet long, northwest by southeast, and 150 feet wide, thousands of skeletons were discovered, many hitherto unknown to science. Pools of water and tar still are characteristic features of this section of California, and in the Pleistocene period were natural drinking places for many kinds of herbivorous animals and for the carnivorous types which preyed upon them. Both in their struggles became trapped in the treacherous tar seep or pool, which has been an excellent preservative of their skeletons. The remains of mammals and birds of extinct type determined thus far in the university collection include 630 sabre-tooth tigers; over 700 "big wolves"; 7 mastodons; 39 giant ground sloths; 39 bison; 39 horses; 39 camels; 17 elephants (including the skeleton of the first "Imperial" elephant found), besides skeletons of the great American lion; the gigantic teratornis, with a 14 foot wing spread; California peacock and a vast number of minor specimens. In 1914 a human skull, possibly several thousand years old, was recovered from the pit. Fifteen mounted examples of the most important of these remarkable prehistoric animals and a great quantity of unmounted specimens are exhibited in the Museum of History, Science and Art in Los Angeles. Mrs. Ida Hancock, the owner of the property, donated 32 acres of the land enclosing the pool to Los Angeles County, which now maintains a park and subsidiary museum around this interesting "death-trap." Consult Merriam, J. C., 'A Death-trap which antedates Adam and Eve' (in *Harper's Weekly*, 18 Dec. 1909).

LA BRUYÈRE, là brü-yär, Jean de, French moralist: b. Paris, 17 Aug. 1645; d.

Versailles, 10 May 1696. He was educated for the law, became treasurer at Caen, and through the influence of Bossuet was employed in the education of the Duke of Bourbon, grandson of the great Condé, with a pension of 3,000 livres, and was attached to his person during the remainder of his life. In 1688 he published the 'Characters of Theophrastus,' translated into French, to which he added others of his own, in which he represented the manners of his time with great accuracy, and in a style epigrammatical, ingenious and witty. The work contained 386 "characters"; the 4th edition (1689), 340 additional ones, while the 9th, in press at the time of the author's death, included over 1,100 "characters." Consult Rahstede, 'La Bruyère und seine Charaktere' (1886); Allaire, 'La Bruyère dans la maison de Condé' (1886); Pellisson, 'La Bruyère' (1893). See CHARACTERS OF THEOPHRASTUS.

LA CALPRENEDE, là käl'prē'nād, **Gautier de Costes de**, French novelist: b. Sarlat, Dordogne, 1610; d. 1663. He went (1632) to Paris and entered the guards' regiment as officer, becoming royal chamberlain. His chivalry novels, copying the style of 'Amadis,' brought him fame, especially his 'Cléopâtre,' extending into 12 volumes (1647-58). He selected names from the period of Augustus as a framework in which to describe persons of his own day, the subtlety and stale sentimentality of the work finding favor. The characters, however, are, for the most part, well drawn and some scenes are excellent. Notable among the novels are 'Cassandre' and other works in 10 volumes (1642-50); 'Faramond' and others in seven volumes (1661-70); 'Les nouvelles, ou les divertissements de la princesse Alcidiene' (1661). He also wrote a number of plays, most notable being 'La Mort de Mithridate' (1637); 'Le Comte d'Essex' (1639); 'Edouard, roi d'Angleterre' (1640). Consult Körtling, 'Geschichte des französischen Romans im XVII ten Jahrhundert' (Vol. I, Oppeln 1891); Hill, H. W., 'La Calprenède's Romances and the Restoration Drama' (Chicago 1911).

LA CHALOTAIS, là sha'lō'tā, **Louis René de Caradeuc de**, French magistrate: b. Rennes, 6 March 1701; d. Rennes, 12 July 1785. He was a procureur-général of the Parliament of Brittany and one of the most ardent adversaries of the Jesuits in the reign of Louis XV. His notes under title of 'Compte rendu des constitution des jésuites,' placed before the Brittany government (1761) led to the abolition of the order from France. He next hoped to reorganize public education and wrote 'Essai d'éducation nationale' (Geneva 1763, Paris 1825), a remarkable treatise and translated into several languages, which was highly eulogized by Voltaire. The enmity of the Duke d'Aiguillon and others brought false persecution against him successfully and he was arrested in 1765 and imprisoned. Failing to bring about a fair trial after several attempts his friends demanded justice and Louis XVI placed him back in his former parliamentary position at Rennes in 1775. Consult Robidou, 'La Chalotais et les jésuites' (Rennes 1879); 'La Chalotais et le duc d'Aiguillon,' (published by Henri Carré, Paris 1893), from 'Chevalier de Foulette's Correspondence.'

LA CHARTREUSE DE PARME, là zhār'trüz dē parm', 'La Chartreuse de Parme,' esteemed the best of the novels of Stendhal (Henri Beyle), was written in 1830, though not published till 1839. In time it belongs to the first flush of the Romantic movement, and it has highly romantic passages, but there are others which seem clearly to foreshadow the naturalistic and the psychological schools of fiction. Some descriptive passages are of rare brilliancy. The story, opening in 1796, passes rapidly to the decade following Waterloo. The scene is chiefly in Milan or Parma; the plot, ingenious but over-tortuous, deals with the intrigues of a petty Italian court; the interest, whether for author or reader, is almost wholly in character. Though crude in coloring and melodramatic in treatment the novel seems the first serious attempt in French fiction to exhibit not merely foreign scenes but foreign ideals and psychic life. Fabrice, the hero, his military career closed by the fall of Napoleon, turns his ambition, though not his heart, to the Church, and after adventures that show him, in Sainte-Beuve's phrase, "like an animal given over to his appetites or like a wanton child who follows his caprices," not, indeed, without shrewdness, dies an archbishop in a Carthusian monastery, whence the story's title. The heroine, Duchess Sanseverina, beautiful, witty and loving Fabrice, her nephew, with the desperation of a last passion, murders, marries and forgets her marriage vows in his behalf, incarnating the intense passions of some familiar female figures of the Italian renaissance Count Mosca, to Balzac a glorified Metternich, is for us a diplomatic courtier, ingeniously unscrupulous in reconciling the duties of his station with the demands of his lusts. Palla, political outlaw and highwayman, the philandering agent of the duchess' criminal designs, is an interesting age-fellow of Hugo's Hernan. All four illustrate as many phases of Stendhal's conception of the unreasoning fatality of love.

BENJAMIN W. WELLS

LA CHAUSSÉE, là shō-sā, **Pierre Claud Nivelle de**, French dramatist, founder of the so-called "pathetic comedy" or melodrama: b. Paris, 1692; d. there, 14 March 1754. 'Le Pré jugé à la Mode' (1735) by him was the first French pathetic comedy. Of 18 dramas by him among the best are 'School of Friendship' (1737); 'Melanide' (1741); 'Love for Love' (1742); 'Pamela' (1743); 'School of Mothers' (1745); 'The Governess' (1747). His plays were all written in verse and followed strictly the rules of the classic drama.

LA CITTA MORTA ('The City of the Dead'), a modern tragedy in five acts and in prose, by Gabriele d'Annunzio, performed for the first time in Paris at the Renaissance Theatre, 21 Jan. 1898. Although every effort was made to expose to the best advantage the artistic possibilities of the tragedy, Sara Bernhardt playing the part of the blind Anna with all her rare skill and intelligence, the play was not a success. It has been played in England and in America, but received rather coldly, and for several reasons, one of which may be said to be its lack of dramatic action; for it is more a lyric poem in dialogue, or a succession of descriptions artistically composed, than a drama as ordinarily understood.

The scene is laid in Argolis, near the ruins of Mycenae. The *dramatis personae* consist of five characters; an archaeologist of a most ferocious type, Leonardo; his sister, Bianca, Maria, a young woman, endowed with exuberant health and beauty and possessing rare personal charm, who accompanies the archaeologist and shares his keen interest in his excavations and discoveries; Alessandro, a poet and scholar, ever inspiring and helping Leonardo in all he undertakes; Anna, the wife of Alessandro, who is blind although not from her birth. This misfortune gives Anna's mental vision a sensitiveness and acuteness which makes up in no small degree for her loss of sight; lastly, a nurse, an attendant of Anna, whose informing rôle suggests somewhat the part filled in a certain measure by the old Greek chorus. As in the plays of Sophocles and Euripides and of Racine's *Andromède*, it is fate or destiny that controls the incidents of the tragedy and hangs heavily over the participants. In the air itself, breathed by the archaeologist and the poet in their passionate search for the tomb of the house of Atreus, is rank poison emanating from the crimes committed by the Atridae. So atrocious is the curse over this ill-starred house that, as Alessandro tells his wife (I-4) some direful traces must still remain in the dust trampled by the sons of Atreus. This gives the key to the trend of events.

That a tragedy having the three mainsprings of its action in incest, adultery and fratricide, even with a Greek setting, should be received coolly by Anglo-Saxon audiences is readily understood. That it received such acceptance as it secured is due in a measure to the remarkable acting of Eleonora Duse, who impersonated Anna. The tragedy has been the subject of much diverse criticism. However repellent the subject may appear, enwrapped as it is in a sullen and depressing atmosphere, the tragedy itself is unquestionably a highly artistic production. The author not only possesses the inherent qualities ascribed to the Latin and Italian temperament, but the old pagan strain reveals itself in utterly ignoring the conventionalities usually adhered to more or less by writers in general. Moreover, his accurate knowledge, gained on the spot, of ancient history and literature, together with unusual poetical gifts make up a combination producing a result that has rightly attracted the attention of the literary world. Revolting as may be his remorseless brutality, especially to the non-Latin temperament, it is impossible not to recognize an artist exceptionally gifted and a literary production quite out of the ordinary. A translation of *La città morta*, by G. A. Symons, was published in 1900; another by G. Mantellini (New York 1902). Consult also Muret, Maurice, *La Littérature Italienne d'aujourd'hui* (pp. 90-95, Paris 1906); Huneker, J., *Duse and d'Annunzio in Iconoclasts*, pp. 338-344, (New York 1907).

JAMES GEDDES, JR.

LA CONDAMINE, là-kôn-dä-mên, Charles Marie de, French geodesist and author: b. Paris, Jan. 28, 1701; d. there, Feb. 4, 1774. He entered the army, but resigned to pursue scientific studies. Elected at twenty-nine to the Académie des Sciences, he made field trips to Asia and Africa. In 1735 he went to Peru with the astronomer Louis Godin (1704-1760) and the

hydrographer and mathematician Pierre Bouguer (1698-1758) to determine the length of the arc of a degree of the meridian at the equator. From the Amazon in 1736 he sent several rolls of *caoutchouc* to the academy with a report on its uses, thus introducing rubber into Europe. He returned to France in 1744. In several of his writings he advocated inoculation for smallpox a generation before Edward Jenner (q.v.) made his epochal discovery of vaccination (1796). Among his principal works are an account of his travels in South America (1745), a history of the pyramids of Quito (1751) and the journal of his travels to measure the meridional arc (1751). Three memoirs on inoculation appeared in 1754, 1758 and 1765, and his *Histoire de l'inoculation de la petite vérole* in 1773. A stamp bearing his portrait was issued in 1935 by the Republic of Ecuador.

LA CONFESSION D'UN ENFANT DU SIECLE, là kôn'fès'syôn d'ung' ô'n'fôn dü syäcl' (*Confession of a child of the century*) is one of the most characteristic works of Alfred de Musset. It owed not a little of its immediate great success to the fact that, while ostensibly a novel, it was a thinly veiled history of the poet's love affair with George Sand, which she had already begun to use as literary material in her *Lettres d'un voyageur*. Written (1835) shortly after that ultraromantic adventure in ecstasy and torture, it is very generous to the heroine of that experiment and without the bitterness that later marked the references of each of the principals to the other. For the frankness and sincerity of its self-revelation it is a personal document of great interest. But it is more. It is a wonderfully striking expression of that peculiar state of mind, often called "Byronic" in English, so common among the youth of the generation coming after the French Revolution and the Napoleonic wars, and known in France as the "maladie du siècle." Its opening pages contain a famous description of that malady and an analysis of the conditions out of which it grew. So it is a document even more precious for what it tells us of the century than for what it reveals of the child.

ARTHUR G. CANFIELD.

LA COSA, la kô'sa, Juan de, Spanish navigator: b. about 1460; d. November 1509. He was the companion of Columbus in the discoverer's voyage to Hispaniola in 1493 and settling at Santoña, in Aranzham, made his living and reputation as a draughtsman of charts (1496). He accompanied Ojeda in an expedition to the Pearl coast in 1499; and in 1501 explored the northern coast of South America from Venezuela to Panama. In the course of an expedition on which he accompanied Ojeda, the party on landing in the bay of Cartagena was attacked by Indians, and he perished with his companions, of whom Ojeda alone escaped. His map of the world, beautifully illustrated on vellum, is in possession of the Spanish government, and is the earliest known to include the New World, having been made in 1500.

LA CROIX, la krwä', Alfred, French geologist: b. Mâcon (Saône-et-Loire), Feb. 4, 1863. He was head of the scientific expedition sent to Martinique (1902-03) and of numerous other scientific parties, to United States, Canada,

Asia Minor, Greece, Italy, Germany and England. He was also head of a committee on historical and scientific work in 1895, and was charged with the geological map of France in the following year. His published works include *Minéralogie de la France et de ses colonies* (1893-1902); *Les Enclaves des roches volcaniques*; *La Montagne Pelée et ses éruptions* (1904). He has also contributed very extensively to scientific journals and magazines, especially on the metamorphism of eruptive rocks, volcanic action and causes and mineralogy.

LA CROSSE, là kròs', city, Wisconsin, La Crosse County seat; altitude 649 feet; on the Mississippi River (9-foot channel); 820 miles northwest of Chicago; on the Chicago and North Western; Chicago, Burlington and Quincy; and Chicago, Milwaukee, St. Paul and Pacific railroads; with a municipal airport. The city is the trade center of an agricultural region comprising parts of southwestern Wisconsin, southeastern Minnesota, and northeastern Iowa. It has a wide variety of industries, including the manufacture of agricultural implements, air conditioning and heating equipment, gauges for automobiles and airplanes, beer, rubber footwear, truck trailers, tools and dies. La Crosse maintains a public library with two branch libraries; parks with playgrounds; two armories, several hospitals, and a tuberculosis sanitarium. Schools include an adult vocational school, and a state teachers' college, the latter having a museum. A city planning commission through zoning ordinance directs the growth and improvement of the city. In 1939 a toll-free bridge across the Mississippi was completed.

History.—La Crosse started as a trading post in Indian territory. At first the site was called Prairie la Crosse by the French who occasionally stopped here to trade with the Winnebago Indians. The latter played a game which reminded the French of the la crosse game. The site was first permanently settled in 1841 by Nathan Myrick; one of the city's parks is named in his honor, and a plaque identifies the site of the first building which was erected by him. The first and largest group of settlers came from New York, Ohio and Vermont. They were followed by Germans and Norwegians after 1848. In 1851 the settlement was incorporated as a village and in 1856 it received its city charter. Government is by a mayor and board of aldermen. The water supply system is city-owned. Pop. (1940) 42,707; (1950) 47,535.

LA CROSSE, a Canadian outdoor game played with a ball and a stick of light hickory, bent at the top like a bishop's crozier, from which the game derives its name. It was very popular among the Indians of North America, being sometimes taken part in, according to Catlin, by 800 to 1,000 players, in which tribe was set against tribe, the game lasting for days, broken arms and legs being common among the players, and some even killed. The games were preceded by rigorous training on the part of the contestants. A game of ball, played at Michillimackinac on the king's birthday, June 4, 1763, was by Pontiac made the occasion of an ingenious stratagem by which the garrison was surprised and massacred.

The stick employed in the game is 5 or 6 feet in length. Strings of deerskin are stretched di-

agonally across the hooked portion of the crosse forming a network. Only one ball is employed made of india rubber, and eight or nine inches in circumference. Posts or poles about six feet high, with a small flag at the top of each, complete the equipment. The players are usually 11 on each side, but their number, as well as the distance of the goals apart, is nearly optional. The object of the game is for one side to drive the ball through their opponents' goal. The ball must not be touched with the hand or foot, but is scooped up from the ground with the bend of the crosse, on which it is carried horizontally, while the player runs toward one of the goals, dodging his antagonists. The game is played in two halves, of a half-hour's duration. A club was formed at Montreal in 1846; in 1860 it began to attain popularity in Canada, and it was introduced into the United States in the early 70's. The National La Crosse Association of Canada was organized in 1867.

Consult Beers, *La Crosse: the National Game of Canada* (Montreal 1869); Schweitzer, *La Crosse: an Expert's Instruction* (New York 1904); Stanwick, T., *La Crosse* (New York 1940); Official La Crosse Guide, prepared by the National Collegiate Athletic Association (New York 1943).

LA DAME AUX CAMELIAS, là dān ò kà-mā-lyā' (*The Lady of the Camellias*). This play by Alexandre Dumas, the Younger, first appeared (1848) as a novel written under stress of debts gathered in accumulating experience that it in part reflects. The novel was dramatized in 1849, but, owing to the failure of the theater and curious complications with the censorship, of which a preface gives vivacious account, it was first acted Feb. 2, 1852. Success was immediate and lasting. In manifold adaptations it has been played in many lands and has engaged the talent of many noted actresses. In America it is known in eight editions as *Camille*, in two as *The Lady of the Camellias*. It had immediate origin in the life and death at 22 of an acquaintance of the dramatist, Alphonsine Plessis, a Parisian courtesan, once maid or a farm, who died of consumption in 18-7. Her unselfish charm was celebrated in a brief funeral address by Théophile Gautier and is commemorated in a much visited monument at the cemetery of Père La Chaise. Dumas' *Lady of the Camellias*, Marguerite Gautier, is so drawn by a requited love to Armand Duval that she makes all material sacrifices to live wholly with and for him. His father shows her what this will involve for Armand's career. Then, rising to the height of immolation, she deliberately estranges her lover, sacrificing his esteem and her life to Armand, who learns too late the price of her devotion. The theme of the courtesan redeemed by love is at least as old as Prévost's *Manon Lescaut* (1731). It has been dramatized by Ponsot (1782) and again by Hugo in *Marion de Lorme*. But *La Dame aux camélias* marks in the French stage the beginnings of the realist study of social problems which has since largely engaged its attention.

BENJAMIN W. WELLS.

LA DEBACLE, là dā'bā-kl' (*THE DOWNFALL*), (1892), a realistic novel by Emile Zola, told of the horrors of the Franco-Prussian War of 1870. Nothing more powerful of its kind has been written in France, or perhaps in any other country. Here Zola applies to war that natura-

tic method which he had used with remarkable, if unpleasing, effect in his studies of domestic and social life and which has become celebrated as "Zolaism." In 'La Débâcle' the reader is hurried from disaster to disaster, from error to horror. He beholds the people of France in the grasp of uncontrollable events, which move and crush as surely and inexorably as a glacier. Of what importance, in the lay of these giant social forces, are the lives of Maurice, Jean, Henriette and untold thousands of others? Of what avail are courage and innocence? Justice seems to have disappeared from the face of the earth. Zola's pictures of the defense of the plateau of Illy, culminating in the magnificent but hopeless cavalry charge, and of the horrors of Sedan, are among the most powerful in literature. The effect is heightened by the author's objective treatment, his apparent indifference to the ruin of his country. Here the patriot, as Zola certainly was, is subordinate to the artist, as he shows himself to be in this his masterpiece. Whatever the reader's attitude toward "naturalism," it is doubtful if the naturalistic method could be carried farther than in 'La Débâcle' or applied with more telling effect. And whatever the future fate of "Zolaism," it is probable that this arch example of the method, presenting so graphic a picture of a fateful epoch, is secure of a permanent place in literature.

LA FAMILIA DE ALVAREDA of Fernán Caballero, pseudonym of Cecilia Bohl de Faber, is one of the best-known works of that author. The outline was first sketched in German in 1822 but the book in its present form was not published until 1856. It is one of the first novels of manners in modern Spanish literature and bears the sub-title, "Novel of popular customs." The author writes in the preface that the story was taken from its essential details from events narrated to her by her jealous friend, Perico de Alvala, and the degradation of the latter into a thief and outlaw. The tragedy culminates in the execution of Perico and the death and disintegration of his own family and that of his victim. The tale merely serves as a vehicle for a vivid and picturesque description of Andalusian village life in the early part of the 19th century. Popular legends, traditions, and folksongs are generously interspersed. The author constantly obtrudes her moral both in the narrative itself and in footnotes, and insists that the Spanish peasant can be happy only by clinging to the religious faith and the simple customs of his forefathers. The book is liked by Spaniards because of its didactic and moral tone, and is valued by foreigners because it is one of the many human documents of Spanish literature. There is a German translation of the tale. Caballero, much to her annoyance, claimed as a German because of her father's German origin. There is a good annotated American edition by P. B. Burnet. An account of the author's life and work may be found in the complete edition of her works, vol. I, in the 'Colección de Escritores Castel-

one of the forerunners of the Félibrige movement: b. Lacoste (Gard), 1791; d. 1846. He came of a family celebrated in statesmanship, literature and military life, among his ancestors being the famous poet, La Fare, and the no less notable French marshal of the same name. After having studied law at Toulouse he entered the army in 1814, but left it five years later and returned to his native place where he continued to reside and to devote himself to literature. In 1830 he began publishing in *L'Echo d'Alais* his southern dialect poems, which became very popular in the *langue d'oc* country. These poems were published in book form in 1844 under the title, 'Las Castognados,' at Alais. In these poems the music-loving south felt an echo of their own life. Their harmony, their gentle sweetness and their brilliancy at once made La Fare a literary leader among the Provençal people, until then without one in later years. His poems, therefore, did much to further the elevation once more of the *langue d'oc* into a literary tongue.

LA FARGE, Christopher Grant, American architect: b. Newport, R. I., 5 Jan. 1862. He studied at the Massachusetts Institute of Technology (1880-81), and in the office of H. H. Richardson (q.v.), and in 1884, with G. L. Heins, took charge of the architectural works of his father, John La Farge (q.v.). From 1886 to 1910 he was a member of the firm of Heins & La Farge, whose principal work is the cathedral of Saint John the Divine, New York. Other works that may be named are the Houghton Chapel at Wellesley College; the Roman Catholic chapel at West Point; and Saint Matthew's Church, Washington, D. C., church of the Blessed Sacrament, Providence, R. I.; Roman Catholic Cathedral, Seattle, Wash.; stations of the original New York subway, etc. He was fellow and director, American Institute of Architects, past president, Architectural League, New York; trustee and secretary, American Academy in Rome; member advisory council, School of Architecture, Mass. Inst. of Tech.; member advisory board, Princeton Univ. School of Architecture. Died, 11 Oct. 1938.

LA FARGE, John, American artist: b. New York, 31 March 1835; d. 14 Nov. 1910. He was the son of Jean Frédéric de la Farge, French midshipman, who escaped imprisonment at San Domingo, 1806, and eventually settled at Philadelphia. He studied drawing with his grandfather Binsse and went abroad in 1856. He studied for some time under Couture in Paris and later settled down in a lawyer's office in New York. He became much attracted by the Arundel prints of Giotto and formed a deep appreciation of Japanese art. He found a friend and master in William Hunt. He married Margaret Perry, great-granddaughter of Benjamin Franklin, in 1860. He originally developed a taste founded on Japanese liberalism, pre-Raphaelite conventionality and imaginative conventionalism. In 1876-77 he was engaged on the mural decoration of Trinity Church, Boston. He began glass painting and window designing in 1878 and was successful in the manufacture and designing of stained glasses. He was connected with Saint-Gaudens in the erection of the King mausoleum at Newport, R. I. He visited Japan and the islands of the Pacific in 1886. Many water-color

SAMUEL M. WAXMAN.

LA FARE-ALAIS, la fär-ä'lä', Christophe-Martin, MARQUIS OF, a provençal poet and

sketches of native life resulted from this trip. One of his greatest works is the large altarpiece in the church of the Ascension, New York (1888). Other noteworthy works are 'Christ and Nicodemus,' Trinity Church, Boston; 'The Muse of Painting,' Metropolitan Museum, New York; 'Coming of the Magi,' church of the Incarnation, New York; among his mural decorations are those in the Brick Church, New York; Paulists' Church, New York; Congregational Church, Newport, R. I.; Minnesota State Capitol, Saint Paul; his glass designs include 'Samuel' in Judson Memorial Church, New York; 'The Philosopher,' Crane Memorial Library, Quincy, Mass.; window in Second Presbyterian Church, Chicago; 'Battle Window,' Memorial Hall, Harvard; 'Paul at Athens,' Columbia University Chapel. In 1869 he became a member of the National Academy; in 1891 was made officer of the Legion of Honor, and was one of the seven original members of the American Academy of Arts and Letters. La Farge was skilful as a colorist, however much we may criticise his inadequate conception and weakness in drawing. He is an important figure in the history of American painting and was a real pioneer in mural painting. He also painted portraits, flowers and landscapes. He contributed frequently to the magazines and published 'Consideration on Painting' (1895); 'Great Masters' (1903); 'Higher Life in Art' (1910); 'Reminiscences of the South Seas' (1912). Consult Coffin, C. H., 'American Masters of Painting' (New York 1892); Cary, E. L., 'International Studio' (Vol. XXXVIII, ib. 1909); Cortissoz, Royal, 'John La Farge: A Memoir and a Study' (ib. 1911); Isham, Samuel, 'History of American Painting' (ib. 1905); Waern, 'John La Farge: Artist and Writer' (London 1896).

LA FARINA, *la fà-rē'nā*, **Giuseppe**, Italian statesman and historian: b. Messina, Sicily, 20 July 1815; d. Turin, 5 Sept. 1863. He studied at the University of Catania; entered the law; implicated in a revolutionary conspiracy, was compelled to flee from Sicily (1837); and finally settled in Florence (1841), where he devoted himself to historical composition. Having returned to Sicily in 1848, he was there successively member of Parliament, and Minister of Education, Public Works and the Interior. After the suppression of the revolution in Sicily (1849), he resided in France and Italy, was secretary of the National Italian Society, and strongly advocated Italian unity. Following the war of 1859, he reorganized the National Italian Society, of which he became president; in 1860 was sent to Sicily to represent Victor Emmanuel; and from 1861 sat for Messina in the Italian Parliament. His chief work is 'Storia d'Italia dal 1815 al 1850' (2d ed., 1860).

LA FAYETTE, **Marquis de**, see **LAFAYETTE**.

LA FAYETTE, *lä fä-yèt*, **Marie Madeleine Pioche de la Vergne**, **COMTESSE DE**, French novelist: b. Paris, 16 March 1634; d. there, 25 May 1693. All her life she was in the foremost literary circles, after marriage her house being a noted rendezvous of wits and scholars, including Mme. de Sévigné, La Fontaine and La Rochefoucauld. Her first novel was 'The Princess de Montpensier' (1660);

followed by 'Zaïde' (1670), which among her works ranks next after 'The Princess of Cleves' (1678), her most celebrated work, revealing the conflict between love and duty in a woman's heart, and one of the classics of French literature. She wrote also a 'History of Henrietta of England' (1720), and 'Memoirs of the Court of France for the Years 1688 and 1689' (1731). Consult 'Lives,' Haussonville and Rea (1909). See **PRINCESS OF CLEVES**, **THE**.

LA FÈRE, *la fâr*, France, city in the department of the Aisne and the arrondissement of Laon, on the river Oise, which is joined here by the Somme. It is a town of the second class with several outer forts and has a church of the 15th century, an artillery school, arsenal, college, theatre, museum, machine works, oil factory, etc. When the World War broke out (1914) it had about 5,000 inhabitants. It was captured by the Prussians under Bülow on 27 Feb. 1814, but held out in 1815 against bombardment and investment. In 1870 it surrendered to the Germans after two days' bombardment and an ineffectual sortie.

LA FLÈCHE, *la flêsh'*, France, town and capital of an arrondissement in the department of Sarthe, on the Loire, 30 miles southwest of Le Mans. It is the seat of the famous Prytanée, a school for the sons of officers, originally a college founded for the Jesuits in 1607 by Henry IV. It is a preparatory school of Saint-Cyr. The town carries on tanning, flour milling, paper making and also has establishments for the manufacture of bicycles, gloves, wooden shoes, etc. Pop. (town) 7,800; (commune) 10,830.

LA FLESCHE, **Susette**. See "BRIGHT EYES."

LA FOLLETTE, **Robert Marion**, American statesman: b. Primrose, Wis., 14 June 1855; d. Washington, D. C., 18 June 1925. Graduated from the University of Wisconsin in 1879, in 1880 he was admitted to the bar. He became district attorney of Dane County in 1880, retaining that position till 1884, when he took up the regular practice of his profession. In 1887 he was elected to Congress, serving till 1891; he won reputation as an orator, and as a member of the Committee of Ways and Means took a prominent part in the framing of the McKinley Tariff Bill. At the close of his service in Congress he resumed his practice, and remained active in politics, becoming one of the leaders of the younger men in the Republican party. He took part in a campaign against the exclusive privileges of corporations and against the boss system. His two pamphlets, 'Menace of the Machine' and 'The Nomination of Candidates by Australian Ballot' (1897), attracted wide attention. In them he outlined his program for electoral reform in Wisconsin. He was elected governor of his State three times, 1902 and 1904. As governor he led in the movement for a direct primary law, for the equalization of taxation and the regulation of railroad rates. He resigned the governorship in 1904 to become United States senator and was elected in 1911, 1916 and 1923. In the Senate he demanded progressive legislation and became well known for his advocacy of the physical valuation of railroads, his speeches on railro-

subjects showing him to be a profound student of these questions. He was prominently mentioned for the Presidential nomination in 1908, receiving 25 votes, and again in 1912. In 1924, he headed a third party ticket and received a popular vote of 4,667,312. He was one of the leaders in the movement to have U. S. Senators elected by popular vote. Other causes championed by him include: Workmen's compensation, publicity of campaign expenses, the parcel post, the Federal inheritance tax, exemption of co-operative farmers' and labor organizations from the anti-trust laws, woman suffrage, and the Seaman's Act. He was one of the senators who opposed the arming of American merchant vessels in the European war zone.

LA FONTAINE, la fōn-tēn, **Jean de**, French poet: b. Chateau-Thierry, Champagne, 8 July 1621; d. Paris, 13 April 1695. He was the son of Charles de la Fontaine, a forest ranger of the highest middle class. Jean was the eldest child and was sent to school at Rheims. After finishing at the grammar school he studied for a time without much seriousness for the priesthood, but abandoned it because of lack of interest. At the age of 26 his father resigned his position in Jean's favor, and married him to Marie Héricart, a girl of 16, with considerable fortune. The marriage was not altogether satisfactory, for La Fontaine was absent most of the time, squandered his wife's fortune, in 1658 consented to a "separation des biens." For the greater part of his life he lived at Paris, while his wife remained at Chateau-Thierry.

It was not until he was 30 that La Fontaine began to devote himself to literature. Content at first with the lighter forms of poetical composition, he wrote his first serious work, *L'Eunuque*, an adaptation of the *Eunuchus* of Terence in 1654. This was addressed to Fouquet, and won for the author his first patron. A number of minor poems and ballads were also written for the superintendent. When the displeasure of the sovereign was incurred by Fouquet, La Fontaine found new patrons in the Duke and Duchess of Bouillon, who settled some of his legal difficulties and made him welcome at their home. In 1664 his first book of the *'Contes'* appeared. They are stories with old themes based on Boccaccio, the *'Cent Nouvelles Nouvelles'*, and other collections of legends, reanimated by his swift and easy power of narration and his keen analysis of the characters. Among his best friends of this period were Racine, Boileau and Molière, with whom he formed the famous quartet of the Rue du Vieux Colombier, which made the literary history of the time. The Duchess Dowager of Orleans was his next powerful friend. He lived for a few years under her protection, and at her death was invited to the home of Madame de la Sablière, where he remained for the next 20 years.

His *'Les Amours de Psyche'* and *'Adonis'* romantic novels, were printed in 1669. His second volume of *'Contes'* had appeared in 1666, and two years later six books of the *'Fables'* were published. Contemporary critics gave high estimates of his works, and public recognition came in 1683, when despite considerable opposition he was elected to the Academy. His health began to fail, and it was during a severe illness

(about 1692) that he was converted and repented of the improprieties of many of his stories. The death of Madame de Sablière in 1693 affected him profoundly, and, broken in health and old, he accepted the patronage of Monsieur and Madame Hervait who cared for him in his last days.

The curious personality of La Fontaine has given rise to many stories concerning his life and habits. The candor and simplicity of his character acquired for him the title of "le bon homme." He was proverbially absent-minded, awkward and rude in society. The best of his works are the *'Contes'* and the *'Fables'*, which mark him as the master of narrators of short stories and tales. The latter have received more favorable comment, since their tone has pleased more exacting critics; while the improprieties of the former have blinded some to the high artistic value of the composition itself. The *'Fables'* abound in keen analysis, cleverly hidden political teaching, natural and homely morals and delightful descriptive passages. His rhyme is of artful irregularity and is the art medium for his deft and skilful power of narration. Of his plays, which are considerably weaker than his other works, the most noteworthy are *'Le Florentin'*, *'Ragotin'* and *'La Coupe enchantée.'* His separate poetical works are represented by *'La captivité de Saint Malo'* (1673) and the *'Poème du Quinquina'* (1682). A volume of mystically religious verse was published by him in 1671, and several unimportant comedies (collected in 1702). His letters, scattered poems, etc., were edited as *'Œuvres diverses'* in 1729. Both the *'Contes'* and the *'Fables'* have been superbly printed. The latter were illustrated by Oudry (1755-59), and the former by Eisen 1762. Gustave Doré also did illustrations for the *'Fables.'* The best scholarly edition is that by Walckenaer (1826-27), who has also written an excellent biography and critical estimate of La Fontaine. Most well known is the edition by Regnier in the *'Grand Ecrivains'* series (9 vols., 1888-92). Other good editions are by Moland (7 vols., 1872-76) and Marty-Laveaux (5 vols., 1857-77). Consult Lafenestre, G., *'Jean de la Fontaine'* (1885); Faguet, E., *'Jean de la Fontaine'* (1900); Taine, *'La Fontaine et ses fables'* (15th ed., 1901); Hookum, P., *'The Masterpieces of La Fontaine'* (New York 1916). See **LA FONTAINE FABLES**.

LA FONTAINE, Sir Louis Hippolyte, Canadian statesman and judge: b. Boucherville, Lower Canada, October 1807; d. Montreal, 26 Feb. 1864. He early achieved prominence at the bar, and after the rebellion of 1837, in which he was accused of complicity, he went to England and afterward to France, and on returning to Canada in 1838 was imprisoned but released without being brought to trial. He became prominent in the Assembly of United Canada, was joint first minister in the La Fontaine-Baldwin administrations (1842-43, 1848-51). In the second of these important measures were passed and reforms effected—University and Rebellion Losses bills, the introduction of the decimal currency, reorganization of the postal system and the reduction of rates. La Fontaine worked steadily to create a better feeling between the French and British elements in the two provinces. His was the first cabinet

In which the principle of colonial government was recognized. In 1853 he became chief justice of the Court of Queen's Bench of Quebec, and as such presided over the special Seigniorial Court which met in 1855 to adjudicate on claims under the act of the previous year abolishing feudal rights and duties in Lower Canada. He was created a baronet in 1854. Consult 'Baldwin, Lafontaine, Hincks,' by S. Leacock, in the 'Makers of Canada' series (Toronto 1907).

LA FONTAINE FABLES. The Fables of La Fontaine are part and parcel of French literary consciousness to a greater degree than any other classic of its literature. For generations many of these little apologues have been read, committed to memory, recited, paraphrased, by every French school boy and school girl. Countless phrases from them are current coin of conversation; familiarity with them is assumed among all who have more than the rudiments of education.

The first collection of these Fables appeared in 1668 when La Fontaine was already 47 and known to readers chiefly as the author of 'Contes,' lively stories in verse, grazing and sometimes transgressing the bounds of license. The 'Fables' had no such over-spicing. Additional groups of them appeared in 1678-79 and in 1694. After 1683 La Fontaine's mellowed genius expressed itself in this form alone. In all there are 239 of the 'Fables,' varying in length from a few lines to some hundred, those written later being as a rule longer than the earlier. They are divided into 12 books. The first six books, collected in 1668, were in the main adapted from the classical fabulists Æsop, Babrius and Phædrus. In the later books there is a wider range. The Indian Bidpai is drawn upon, as those Eastern fables had come to the French through the Persian. Avienus and Horace are laid under contribution and the earlier French writers, Rabelais, Marot, Maturin Regnier and Des Periers. Contemporary happenings, too, were occasionally turned to account, as for instance an accident at the funeral of M. de Boufflers (vii, II). No fable, so far as appears, is of La Fontaine's invention. The subject is often common property of many ages and races. What gives La Fontaine's 'Fables' their rare distinction is the freshness in narration, the deftness of touch, the unstrained suppleness of metrical structure, the unfailing humor of the pointed moral, the consummate art of their apparent artlessness.

The personages of the 'Fables' are usually animals, each, as Taine has observed, standing as a rule, of course with frequent exceptions, for a distinct class in French society in the age of Louis XIV. The lion is the king; so, too, the rarely introduced elephant. The tiger and the bear stand for the great nobles and the arrogant officials. The ape, the fox and the wolf represent different types of courtiers, as they might be observed at Versailles, shallow imitators of royalty, shrewd self-seekers, time-servers, knavish fops. The dog is the gentleman in waiting, obsequious and supercilious by turns; the cat the hypocrite, watching his chance of advantage; the ass the eternal dupe. But, though these animals stand for men, La Fontaine never forgets that they are animals, and shows himself always a keen, if desultory,

observer of nature. Where men are introduced, these too are social types, the king, the lord, the priest, the monk, the recluse, the burgher, the pedant, the doctor, the coward, the vain man, the arrogant man, the hypocrite, the self-seeker, and, most sympathetically treated of all, the peasant laborer. It has been well said of La Fontaine that he knew men like Molière and society like Saint-Simon. Keen insight into the foibles of human nature is found throughout the 'Fables,' but in the later books admirable ingenuity is employed to make the fable cover yet convey, social doctrines and sympathies more democratic than the age would have tolerated in unmasked expression. So the 'Fables,' first delighting the child for their own sake, delight the man as social parables, full of ageless teachings of worldly wisdom, of ironic observation, of broad humanity, for all their seeming child-like simplicity.

Lamartine could find in La Fontaine's 'Fables' only "limping, disjointed, unequal verses, without symmetry either to the ear or to the page." But the poets of the Romantic School, Hugo, Musset, Gautier and their fellows, found in the popular favor these verses had attained and held an incentive to undertake an emancipation of French prosody which they in large measure achieved. Yet it may be doubted if any lines they wrote awaken so manifold an echo wherever French is spoken as the little apologues of the Grasshopper and the Ant, the Crow and the Fox, Death and the Wood-cutter, the Animals in the Pestilence, the Two Pigeons and many more that crowd to memory. "La Fontaine's Fables," wrote Madame de Sévigné, "are like a basket of strawberries. You begin by selecting the largest and best, but, little by little, you eat first one then another, till at last the basket is empty." There are translations into English verse by E. Wright and Rev. W. L. Collins. An attractive edition of the original text with a preface by Jules Claretie was published in two volumes (New York 1910).

BENJAMIN W. WELLS.

LA FOURCHE, la foorsh, a bayou in southeast Louisiana, and an outlet of the Mississippi River, which begins at Donaldsonville, on the right bank, and flows southeast to the Gulf of Mexico, through Fourchon and Timbalier passes, about 50 miles west of the Delta of the Mississippi. It has a total length of 150 miles and is navigable by steamboats 100 miles from its mouth.

LA GIOCONDA, la g'io-kōn'da, a tragedy in four acts, in prose by Gabriele d'Annunzio and dedicated to "Eleonora Duse delle belle mani." It was first played 15 April 1899 at the theatre Bellini, Palermo, and was not very warmly received. Although the prose form and modern language of the play, the time and the place of the events differentiate it from the old Greek drama, nevertheless, the inexorable fatality which dominates the course of events and against which human defense is in potent renders the play tragic as in the case of the fateful tragedies of antiquity. And yet the fatality is not the predestination of the Greek drama, but a conception of Beauty, whether created by art or nature, as the sovereign power of the world, to which must necessarily be sacrificed goodness, morality, and even life.

itself. The three principal characters are Lucio Settala, a sculptor, his wife, Silvia, and his model and the inspirer of his works of art, Gioconda Diante, a woman of marvelous beauty, with whom he is infatuated. Silvia represents virtue, and Gioconda the supremely beautiful in art. The battle between these two for the soul of the sculptor forms the dramatic struggle of the tragedy. Finally Art triumphs over Virtue, just as a man triumphed over destiny in *La Città Morta*; or, rather, in both cases, the triumph is with Eros, the instigator and director of the motif in d'Annunzio's productions. In *La Gioconda* aesthetic fatality has its fulfillment amid the tears of the good and innocent, upon the ruin of whom the work of immortal art rises. Beauty reigns supreme over the moral virtues trampled in the dust. Despite the lack of action throughout the play, its nonconformity by reason of very long passages to what is supposed to be the conventional dramatic procedure; despite its reversal of generally accepted standards of the conduct of life and the horrible mutilation with which the tragedy ends; despite the supposed influence of German and French writers, the play remains, none the less, as in the case of *La Città Morta*, a thoroughly original production such as only d'Annunzio is capable of producing. *La Gioconda* has been well translated by Arthur Symonds (Chicago 1913).

Consult Dornis, Jean, *Le théâtre de Gabriel d'Annunzio*, in *Revue des deux mondes* (pp. 655-681, February, 1914); Mantovani, D., *Litterature contemporaine* (Turin 1913); Mazzoni, Guido, *La Gioconda*, in *Nuova Antologia*, No. 165, 1899, pp. 314-337.

JAMES GEDDES, JR.

LA GRANDE, là gränd', city, Oregon, and Clatsop County seat; altitude 2,784 feet; on the north Ronde River, 55 miles southeast of Penetion, on the Union Pacific Railroad. It is the center of a fruit, livestock and lumber region, and headquarters for hunting and fishing trips into the Callowa and Blue Mountains. It has railroad shops, creameries, cold storage and meat packing plants, saw and flour mills.

The first settlement was made at this point on the old Oregon Trail in 1861, and was called Brown Town, after Ben Brown who kept a tavern here. The name was changed in 1863 when the settlement obtained a postoffice.

It was incorporated and named county seat in 1864, a title it lost to Union in 1874, and regained 10 years later. Eastern Oregon College of Education is here. Pop. (1940) 7,747; (1950) 9,657.

LA GRANGE, lá gränj', city, Georgia, Troup County seat; altitude 786 feet; 39 miles north of Columbus, near the Alabama state line, and 69 miles southwest of Atlanta; on the Atlanta and West Point, and the Atlantic Coast Line railroads. It is an important trading center, and has textile mills. It manufactures tire-cord fabrics, yarn, overalls, cloth. Sawmilling is also important. It is the seat of La Grange College, the oldest women's college in Georgia.

The city was named after Lafayette's estate in France. It was incorporated in 1828. Pop. (1940) 21,983; (1950) 25,025.

LA GRANGE, residential village, Illinois, in Cook County, altitude 657 feet, on the Chicago, Burlington and Quincy, and the Indiana Harbor Belt railroads; 15 miles west of Chicago. Manu-

factures include transportation equipment and aluminum products.

La Grange was settled in 1830 and incorporated in 1879. It has village government. Cossitt Avenue is named for W. D. Cossitt who became the first village president on incorporation. Pop. (1950) 12,002.

LA GRANGE, city, Texas, Fayette County seat; altitude 272 feet; on the Colorado River, 96 miles west of Houston, and about 55 miles east-southeast of Austin. It is a trading, shipping, and processing center for cotton, dairy, and truck farm products.

La Grange was first settled in 1828 and incorporated as a city in 1854. Men from La Grange fought with Sam Houston at San Jacinto in 1836. The government is by mayor and council. Pop. (1940) 2,531; (1950) 2,738.

LA GRANGE COLLEGE, an educational institution founded for women, at La Grange, Georgia in 1831 as the La Grange Female Academy. In 1843 the state gave it power to confer degrees. Since 1857 it has been controlled by the Methodist Church. In 1948-1949 it admitted male students. The enrollment as of 1951 was 40 men and 138 women.

LA GUAIRA, là gwí'rá, town, Federal District, Venezuela, about seven miles from Caracas, on the Caribbean Sea, was founded in 1588, and is the most important commercial city in the republic. The harbor, improved by a breakwater, has a floating dry dock and shipbuilding plant. La Guaira exports coffee, cocoa and skins, and imports chiefly manufactured goods. Its annual trade amounts to about \$12,000,000. It has cigars, cigarettes, shoes and hat factories, the products of which go entirely into the home market. It has steamship communication with Europe and North America. It is connected with the capital by railway 29 miles long, winding around the bases of the mountains. Pop. (1941) 10,103.

LA GUARDIA, Fiorello H., American public official: b. New York City, Dec. 11, 1882; d. there, Sept. 20, 1947. His family moved to Arizona, where he was educated. When the Spanish-American War broke out he went with his father, a military band master, to Florida and was a correspondent of a St. Louis paper at the age of 15. His father died in Florida and the young La Guardia was taken by his mother to live with her relatives in Budapest, Hungary. There, in 1903, he secured employment in the United States consulate. Later he was acting American consul at Fiume, where he won a reputation as champion of American-bound immigrants. From 1907 to 1910 he was interpreter at Ellis Island, New York Harbor, and studied law in the evening classes at New York University. After his admission to the bar he entered politics under the Republican aegis. In 1914-1917 he was deputy attorney general of New York State. In 1916 he won a seat in Congress by a small plurality. In the House of Representatives he quickly made a record for himself as a member of the Progressive bloc. When World War I came he voted for American entrance and for the draft, tried to enter Plattsburg, but was rejected because he was not tall enough. He learned to fly, enlisted in the air corps and led a squadron of fliers to Italy. He

returned a hero and a major and was returned to Congress. There he fought profiteers and opposed the espionage acts. In 1919 he was elected president of the Board of Aldermen of New York City, the first Republican in 20 years to hold this office. After a stormy term he was re-elected to Congress and remained there for ten years. During his five terms he received the endorsements of Republicans, Socialists and other minor parties. He was an ally of the Norris-Brookhart-La Follette wing; was a bitter foe of prohibition; and helped pass an anti-injunction bill which won him the respect of labor. His first major political defeat was in 1929 when he ran for mayor of New York against James J. Walker. The next time he ran (1933), after Walker had hurriedly quit office under fire, he was successful. Re-elected in 1937 and 1941, he was the first three-term mayor in the history of Greater New York. During his tenure, which ended Dec. 31, 1945, a new city charter was adopted (1938) and the power of Tammany Hall was reduced to a shadow. In March 1946 he succeeded H. H. Lehman as director general of UNRRA, retiring in December. Courageous, honest, an indefatigable worker and able administrator, he won the respect, admiration, and affection of the New York electorate.

LA HABANA, Cuba. See HAVANA, Cuba.

LA HAGUE, là hăg', Cape, (Fr. CAP DE LA HAGUE), a headland of Normandy, France, opposite the island of Alderney, 20 miles northwest of Cherbourg and forming the northwestern extremity of the peninsula of Cotentin, in the English Channel. It is often confounded with Fort La Hogue or La Hougue on the opposite side of Cotentin.

LA HOGUE, là hōg' or LA HOUGUE, là hōōg', roadstead, France, off Point Barfleur on the east coast of Cotentin Peninsula, Department of Manche. It was here that the united English and Dutch fleets, under Admiral Edward Russell, defeated the French under Comte de Tourville, May 19-24, 1692.

LA JONQUIERE, là zhōn'kyār'. Pierre Jacques de Taffanel, French naval officer: b. Lagrassies, near Alby, 1680; d. Quebec, Canada, 1753. He accompanied Duguay-Frouin at the taking of Rio Janeiro (1711), was captain under Admiral de Court (1744) at the Battle of Toulon and commanded the French Fleet at the Battle of Finisterre (1747), with his six vessels fighting against 17 British men of the line. Taken prisoner, he gained his liberty on the Treaty of Aix-la-Chapelle when (1749) he went to Quebec as governor of Canada. He proved an able governor.

LA JUNTA, là hōōn'tū, city, Colorado, and Otero County seat; altitude 4,100 feet; on the Arkansas River and on the Atchison, Topeka and Santa Fe Railroad; 64 miles southeast of Pueblo; with a municipal airport and airline service. It has large railroad shops, and processes the meat and dairy products from neighboring stockraising and dairy-farming lands. The Bent's Fort Museum (erected in commemoration of Old Fort Bent) maintains a Kit Carson collection.

La Junta was settled in 1863, incorporated as a town in 1881, and as a city in 1901. It has mayor and council. Pop. (1950) 7,712.

LA LIBERTAD, town, Salvador, the country's second largest port. Its exports include coffee and sugar. Pop. (1948) 2,219.

LA MALBAIE, là māl-bā', resort village, Quebec, Canada, in East Charlevoix County, at the confluence of the Malbaie and St. Lawrence rivers. It is an important farming and lumber region.

The village site was visited by Samuel de Champlain in 1608, who gave it its name because of poor anchorage. Later it was settled by Scots. Prisoners were confined here during the American Revolutionary War. The vicinity around La Malbaie is geologically interesting. Pop. (1951) 2,466.

LA MARE AU DIABLE, là mār ô dy-âbl (*The Devil's Pool*). The most perfect of the works of George Sand was undoubtedly *La Mare au Diable* (1846). Its perfection is due to the fact that it escapes most of her characteristic defects and possesses her finest qualities in their full maturity. This resulted quite naturally from the choice of a simple plot—the love a lonely ploughman feels for a poor shepherdess just emerging into womanhood, and a setting laid in the heart of Berri, the country where the author had lived as a child, and to which she had now returned. The characters, simple Berrichon peasants, as well as the country, were known to her, therefore, not through an imagination only too easily fired, but through observation and long years of sympathetic interest. There is consequently a refreshing absence of that impassioned pleading which frequently threw her early works out of artistic focus and gave us threats and tears for facts and blood. Intense individualist that she was, her distrust of the perplexities of society had been re-enforced by her own unhappy marriage, and from the first she had, with Rousseau and Wordsworth, favored the primitive, the simple soul, close to nature. Here she found warrant for her faith that both man and nature are good. This had been indicated in many earlier incidental characters, the flower girls in *André* (1833), the country philosopher Patience, in *Mauprat* (1837), and the story of the poacher, Mouny-Robin (1841). But throughout that earlier period her mind had been tense with the social problem. This nervous tension had disappeared with the years, and now among the scenes of her childhood her native genius had its way. There is here a sureness of touch and the sense of being on firmer ground. It is no impossible that in the peasants she also saw the salvation and future of France. Their way of life, their homes, the country roads, the night in the woods about the Devil's Pool, are truly and beautifully described, and the idealized peasant themselves are likewise true, at least in the sense that they are psychologically consistent and conform to a healthy ideal. The style is simple, limpid and musical, like a woodland brook. In spite of the seemingly unpremeditated manner of her narration, the author keeps steadily to her story and in construction it is superior. *François le Champi* or *La Petite Fadette* which followed it. The student of George Sand feels that she had turned with a sense of relief to "these Georgics of France," as Ste. Beuve aptly called them, and there was something undoubted fresh and reassuring to readers stirred by the revolutionary spirit of '48 in this new and honest

ul portrayal of a realm that promised humanity health, stability and strength.

CHRISTIAN GAUSS.

LA MARMORA, là măr'mô-rä, MARCHESE or (ALFONSO FERRERO), Italian general and statesman: b. Turin, Nov. 18, 1804; d. Florence, Jan. 5, 1878. He was educated at the Sardinian Military Academy, was advanced (1823) to lieutenant of artillery and (1831) captain. He distinguished himself in the war (1848) against Austria at the siege of Peschiera and was advanced to the rank of brigadier general. In 1849 he suppressed the rebellion in Genoa and took the portfolio of minister of war to thoroughly reorganize a disrupted army. In 1855 he commanded the Sardinian expeditionary forces to the Crimea. From 1856 to 1859 he was minister of war and marine and became chief of the general staff on the outbreak of war with Austria. After the treaty of peace of Villa-Franca he again became minister of war and marine (1860). Late in 1861 he became first prefect at Naples and showed energetic action against the movements of Garibaldi and of the Camorra. He headed (1864) the cabinet, after the Turin troubles, as minister of foreign affairs and carried out the September convention with France. In 1866 he concluded a trade treaty with Germany and an alliance with Prussia, and when the war broke out he joined the king and army as chief of general staff. The unsuccessful plan of campaign was his and he fell into great disfavor after the unfortunate Battle of Custozza, resigning his portfolio.

He wrote much in defense of his military plans and after the death of his former adjutant friend, Govone, he published the dispatches to the Berlin (1866) mission in *Un pô-più di luce* (Florence 1873) to prove faithlessness and seditious intent of the Bismarck policy. The denunciations of Bismarck and Prussia stopped him from issuing the second volume of the work, but he issued *I segreti di stato nel governo costituzionale* (ib. 1877) in self-defense. In 1891 a statue on horseback was erected in his memory in Turin.

LA MARQUE, lü märk', or **LAMARQUE**, residential community, Texas, five and one half miles southwest of Texas City, 40 miles southeast of Houston, and 18 miles west of Galveston. It is served by the Galveston, Houston and Henderson Railroad which runs through the center of the town. The Southern Pacific and Texas City railroads cross at the southeast corner of the city. It is a truck farming center. The Southwestern oil field penetrates La Marque and constant drilling operations exist.

The community was settled during the 1860's and received the name La Marque in 1890. Pop. (1950) 7,359.

LA MESA, là mä'sä, residential city, Colima, in Cundinamarca Department, on a high plain about 27 miles from Bogotá. Because of its high elevation above sea level (4,330 feet), the climate is delightful. The surrounding country is a fertile agricultural region. Trade is carried on in coffee, honey, salt, tobacco, fruit and livestock. Pop. (1938) 3,444.

LA METTRIE, là mē-trē', Julien Offroy de La Mettrie, French physician and materialist: b. St. Malo,

Dec. 25, 1709; d. Berlin, Nov. 11, 1751. He studied theology in the Jansenist schools, then decided upon the pursuit of medicine and in 1733 went to Leiden to study under Boerhaave. In 1742 he was appointed surgeon to the guards in Paris. His medical observations led him to believe that physical phenomena were purely physical in their origin. His *Histoire Naturelle de l'Âme* (1745) voiced this conviction and raised so strong a feeling against him that he fled to Leiden. There he elaborated his theories, presenting them forcibly in *L'Homme Machine* (1748). He further expressed his beliefs in *Discours sur le bonheur* and *L'Art de jouir*. He maintained that happiness for the world could be found only in atheism, thereby ending theological strife and the ban on pleasures of the senses. He was forced to leave Leiden in 1748 and found a refuge at the court of Frederick the Great, who appointed him court reader. Among other writings are *Observations de Médecine pratique* (1743); and *Reflexions sur l'origine des animaux* (1750).

LA MORRA, là mōr'rá, an ancient Roman game still played in Italy; the Romans designated the game *micare digitis*, "to flash with the fingers." The game requires two players and consists of the simultaneous throwing out of the right hands of the players and the calling of a number which, in order to score, must total the number of fingers extended upon the right hands of both players. A tie means no score, a correct guess one point; and the game is played for 5 or 10 points. It is commonly used as a gambling game.

Consult Story, W. W., *Rota ali Roma*, 8th ed. (Boston 1887).

LA MOTTE-FOUQUE, là mōt'fōō-kä', BARON Friedrich Heinrich Karl. See FOUQUE, FRIEDRICH HEINRICH KARL.

LA NAVIDAD, là nā-vē-dād'. See NAVIDAD, LA.

LA NOUE, là nōō', François de, French Huguenot captain: b. near Nantes, 1531; d. Moncontour, Aug. 4, 1591. He came of an ancient Breton family and saw his first military service in Italy. He was in the first Huguenot War and in the second one distinguished himself by capturing Orleans in 1567 with only 15 followers. He commanded the rear guard at the Battle of Jarmac in March 1569 and was taken prisoner at Moncontour in October of that year. However, he was soon exchanged, resumed the governorship of Poitou and defeated the Royalist army at Rochefort. He lost his left arm at the Battle of Fontenay in 1570, but an iron one was made for him, thus giving him the name "Bras de fer." With the dawn of peace in France he joined the Dutch Protestants in 1571, but was captured and sent as a prisoner to France. He was requested by Charles IX, after the massacre of St. Bartholomew, to attempt the reconciliation of the Huguenots with the king, but finding the task impossible and war inevitable he gave up his royal commission and served as general of La Rochelle from 1574-1578.

With the conclusion of peace, La Noue served the Huguenot cause in Holland, but in 1580 he was taken prisoner by the Spaniards; they, holding him dangerous through the

splendid character he bore, confined him for five years in prison. While in prison he wrote 'Discours politiques et militaires,' a work of great value, which has been translated into English and German. He was exchanged in 1585 and bound not to take arms against his captors. In 1589 he joined Henry of Navarre, saw service through the siege of Paris, at Argues, Ivry and other battles, and was fatally wounded at the siege of Lamballe in Brittany. He wrote 'Déclaration pour prise d'armes et la défense de Sedan et Jamets' (1588); 'Observations sur l'histoire de Guicciardini' (2 vols., 1592), etc. His 'Correspondence' was published in 1854.

LA NOUVELLE HELOISE, la noo'vél à-lô'è'z ('The New Heloisa'). In 'Julie' or 'The New Heloisa' (1761) Rousseau gave play to his temperament and talent. Here his genius abounded, for it was not a work based on erudition or on the bitter facts of life against which his ardent disposition so frequently rebelled. It was a creation of pure fiction, of unhampered imagination, touching life only on the sides to which he was most attracted, and it left him the largest possible freedom of procedure. Writing, furthermore, in the epistolary style so common in 18th century French and English novels, he took full advantage of the discursive manner of his time. No little of the interest of the novel, therefore, lies outside of the plot proper, in eloquent passages on the right to love, the morality of duelling and suicide, the equality of men, the advantages of country as against city life, and above all on the beauties of lake and mountain scenery in Switzerland. Some 30 years before, Thomson had published his 'Seasons,' and more than 20 had passed since Haller had written his stilted but historically important descriptive poem 'The Alps.' Switzerland, however, had not yet become a place of pilgrimage for tourists. The success of the 'New Heloisa' was to bring them to the shores of Lake Geneva in increasing numbers, and not a few came to visit the scenes described in the famous novel and to wander about in them book in hand.

It would, however, be a serious mistake to overlook the extraordinary interest which the passionate love story itself aroused in Rousseau's contemporaries. The editions could not be printed rapidly enough, and persons of quality stood in line before circulating libraries for an opportunity to rent it at 10 sous an hour.

Rousseau's heroine was to him the model and type of the virtuous woman of sentiment. She had, to be sure, yielded to her plebeian lover and tutor, Saint Preux. Her later marriage she explains as due to motives of duty, devotion and friendship. That after Saint Preux's long absence he should have been invited to live at the house of his former mistress and her husband, and should have accepted, may well appear to have produced an unnecessarily strained situation, fraught with dangers for the virtuous but once passionate lovers. The tension is therefore relieved when Julie loses her life in attempting to save her child from drowning.

To attribute the genesis of Rousseau's famous story to his own attachment for Mme. d'Houdetot is no longer possible; for it seems

well established that the novel had been planned before that episode. That he was indebted to Richardson and England is beyond question. For all this, however, most of his novel received its character and quality from the fact that it was prompted and colored by his own eager and vivid hopes, desires and aspirations. It is the expression of Rousseau's ideal of social and domestic life.

CHRISTIAN GAUSS.

LA PAZ, la päs (Sp. lä päth), department in the northwest of Bolivia, bounded on the north by Brazil, on the east and south by the departments of Beni, Cochabamba and Oruro, and on the west by Peru. Its area has never been accurately determined; according to a recent conservative estimate it is 40,686 square miles. Extensive tracts in the northern portion are still unexplored, and the boundary disputes with Brazil and Peru add a large element of uncertainty. Calculations based upon the extreme Bolivian claims give the fabulous area of 275,413 square miles. The department is divided into nine provinces and these are subdivided into cantons. The entire department is subject to a prefect, representing the national government. Some of the highest peaks of the Bolivian Andes rise above the great Titicaca Basin (itself 13,000 feet above sea-level) in the southern half of this department, which portion has a temperate and moderately salubrious climate (see LA PAZ, the capital, etc.). Chief products are copper, silver, tin, gold, coca, wheat, maize, barley, potatoes; in the torrid lowlands of the north, sugar-cane, rice, tobacco and coffee; and from the forests along the tributaries to the Amazon are obtained rubber and cinchona. Cattle and sheep are bred in large numbers on the upland pastures. The population, according to an official estimate, is 813,860.

LA PAZ, Bolivia, capital of the department of the same name, and, temporarily, of the republic (see SUCRE). It is the metropolis and commercial centre of Bolivia, situated in the Quebrada del Choqueyapu, 650 feet lower than Lake Titicaca (from which the distance by road is about 45 miles) and yet quite 12,120 feet above the level of the sea. The mean annual temperature is about 54° F., and the extremes of temperature 19° F. to 75° F. The clearness of the sky occasions rapid loss of heat by radiation; the nights are therefore much colder than the days. Though the thermometer often falls below freezing-point, plants are rarely frozen for the reason that the air at this great height is very dry. It is substantially built on 40 hills, bridged by 20 bridges, with clean, well-paved streets. The Plaza Murillo, a fashionable promenade bordered with beautiful flowers and the fine tree-bordered Alameda, are the best of its thoroughfares. The cathedral is distinguished by the fine carved stone work of its façades. There are some noteworthy public institutions—a museum, library, university with four faculties, professional schools of various kinds and courts. Railways connect with Antofagasta and the port of Arica. The city was founded in 1549 by Alonzo de Mendoza. Pop. 200,000.

LA PAZ, Mexico, port on the east shore and capital of the southern district of Baja California. It is pleasantly situated bet

the coast range and the bay, and has commercial dealings principally with San Francisco, Mazatlan, Guaymas, San Blas and Manzanillo. Silver mining and agriculture are among principal industries, and the most valuable pearl fishery on the Pacific coast is here located. Pop. 5,536.

LA PELTRIE, la pèl'tre, Marie Madeline le, née CHAUVIGNY, French-Canadian educator: b. Alençon, 1603; d. Quebec, 1671. She was of a religious turn of mind, but was refused permission to enter a convent, was married at 17 and widowed at 22. She answered Father La Jeunes' appeal for help in the education of Indian girls in the Jesuit schools in Canada, and decided to employ her fortune in founding an institution for the work. In 1639 she went to Canada, accompanied by three nuns and several hospital sisters, and founded the Ursuline Convent at Quebec, the first school in Canada for the instruction of girls, teaching both whites and Indians. She was with the Montreal colony in 1642-46, when she returned to Quebec and became a nun, devoting her entire means to the convent.

LA PÉROUSE, la pâ'rooz', Jean Francois de Galaup de, French navigator: b. near Albi, Languedoc, France, 22 Aug. 1741; d. after 1788. He served in the French navy against England (1778-83), and was in command of the frigate *Astrée* in the attack on a British convoy off the coast of Nova Scotia in July 1781. He sailed in August 1785 with two ships on an exploring expedition to the Pacific, one of the objects of which was to discover the northwest passage from the Pacific side. By sailing through La Perouse Strait, between Saghalien and Yezo, he discovered that each of these was a separate island. He touched at points in China and Japan and visited the Solomon Islands and Australia. In February 1788 he sailed from Botany Bay, and after this no more was heard from him. In 1826 it was fully ascertained by the English Captain Dillon that both of the French ships had been wrecked in a storm on a coral reef off Vanikoro, an island lying north of the New Hebrides, and in 1898 a few relics of his party were found there. An account of the early portions of La Perouse's voyage, prepared from journals sent home by him, was published under the title of 'Journey Round the World.'

LA PEYROUSE, Philippe Picot de, French naturalist: b. near Toulouse, 1744; d. 1818. He was advocate-general in the parliament of his native town in 1768-71; thereafter until 1789 engaging in natural history researches. He was then named president of the administration of Toulouse, became inspector of mines and professor of natural science at Toulouse, and in 1800 he was mayor. He became perpetual secretary of the Toulouse Academy of Sciences in 1811, and during the period of the Hundred Days he served as president of the electoral college of Haute-Garonne. He wrote 'Description de plusieurs espèces nouvelles d'orthocératites et d'ostracites' (1781); 'Traité des mines et forges à fer du comté de Foix' (1786); 'Flore des Pyrénées' (1795-1801); 'De quelques espèces d'orobes des Pyrénées' (1818), etc. Consult Decampe, *loge de M. Le Baron de La Peyrouse* (1819).

LA PIEDAD, la pè-ä-däd', Mexico, city in the state of Michoacan, near the northern boundary, on the Lerma River, 62 miles southwest of Guanajuato. It is the centre of a large agricultural district. A fine bridge crosses the Lerma at this point. Pop. 10,604.

LA PLACE, la'plas', or **PLACEUS**, Josué de, French Protestant clergyman: b. Brittany about 1606; d. 17 Aug. 1665. He was educated at Saumur, became pastor of the Reformed church at Nantes in 1625 and professor of theology at Saumur in 1632. He wrote. 'These theologicæ de statu hominis lapsi ante gratiam' (1640), in which he set forth liberal views on the subject of original sin. His views were rejected at the *Formula consensus* of 1765. He also wrote 'Disputationes academicæ' (3 vols., 1649-51), and 'De imputatione primi peccati Adami' (1655). His collected works were published (1699, 1702).

LA PLACE, Pierre Simon de. See **LA-PLACE**.

LA PLATA, la pla'tä, Argentine Republic, capital of the province of Buenos Aires. After the Congress of the republic declared Buenos Aires to be the capital, the legislature of the province of Buenos Aires decided to build a new city, which should be the provincial capital. The cornerstone of La Plata was laid on 19 Nov. 1882, in a barren waste a few miles from the village of Ensenada and about 24 miles below Buenos Aires, on the south shore of the Rio de la Plata. The port of La Plata, built in Ensenada, five miles distant, is in communication with the city by means of a railroad and a canal, which is navigable by seagoing vessels. The city is laid out on the same plan as Washington, D.C., with diagonal avenues 97½ feet wide, streets 58½ feet wide, and 23 public squares. The principal buildings are the government house, the capitol, and the various public departments have been erected on a magnificent scale. To the National University there is attached an astronomical observatory, and it possesses one of the finest museums in South America, especially rich in the departments of palæontology and anthropology. There is an excellent water supply. There are several handsome churches, three theatres, a race-course, a splendid park planted with eucalyptus trees and street railway service. Railways connect this port with nearly every province of the republic, and there is steamer connection with Liverpool. Pop. 193,364.

LA PLATA, Rio de. See **PLATA**, RIO DE LA.

LAPORTE, Roland (1675-1704), known also as «Rowland», leader of the Camisards, Protestant peasantry of the mountainous Cevennes region of southern France. Roland organized and carried on military resistance, beginning in 1702, against persecution resulting in consequence of the revocation of the Edict of Nantes in 1685. The latter decree had granted Protestants some legal protection and certain civil rights in France, and it had been bitterly opposed by the Catholic Church. Its revocation outlawed Protestants again, and was the signal for renewed persecution of them.

Roland, a nephew of the Camisard leader Laporte who was hunted down and shot in 1702, took up the fight, recruiting over a thousand guerrilla fighters whom he organized into a dis-

ciplined force having arsenals and hospitals and enjoying almost solid support from the countryside. The beginning of hostilities was marked by the assassination, in 1702, at Pont-de-Monvert, of the Abbé du Chayla, veteran Catholic missionary from Siam (Thailand), who on being appointed inspector of missions in the Cévennes, had begun subjecting heretics to the squeezers, an instrument of torture resembling the Scottish boot. Popular resistance became fanatical, and Roland, as one of its leaders, soon became celebrated for the daring action and rapid movement of his forces. He joined forces with Jean Cavalier (q.v.), the only Camisard leader to excel him in fame and exploits, and together they waged one of the fiercest partisan wars in French history. In 1702 the two leaders gained entrance to the town of Sauve by a ruse, burned the church, and carried away provisions and ammunition.

For the next two years Roland harassed enemies of the Huguenots throughout the countryside, burning houses and churches, and slaying suspected informers and hostile persons, but taking no pillage for himself. Roland and his forces had just cut to pieces a Catholic regiment sent against them when word came that Cavalier was negotiating with the duc de Villars (q.v.), one of the greatest generals in French history. Negotiations between the latter and Roland, however, came to nothing, and Roland resumed resistance, only to be betrayed in 1704 and shot while defending himself against his captors.

LA PORTE, là pòrt', city, Indiana, seat of La Porte County, is located in the center of a fertile farming area on the edge of the rich industrial Calumet region 59 miles east of Chicago at an altitude of 812 feet. It is served by the New York Central (main line), Nickel Plate, and Pere Marquette railroads as well as by numerous truck lines. Due to its location and excellent transportation facilities, La Porte is one of the leading industrial cities of the Middle West. Products of its factories include road and farm machinery, rubber goods, shoes, gas and oil heaters, brass and aluminum castings, conveyor belts, lumber and mill work, furniture, automobile equipment, canned goods, and woolen cloth.

La Porte (French for the *portal* or *door*) was founded in 1830, and was given its name by the early French settlers, for through it passed all trade between central and southern Indiana and the lake regions of Indiana, Illinois, and Michigan. It was incorporated in 1832 and chartered as a city in 1852. It is governed by a mayor and city council elected every four years. Pop. (1940) 16,180; (1951) 20,414.

LA PORTE, city, Texas, industrial community and resort area, is located on Galveston Bay 21 miles east-southeast of Houston. Settled in 1889 and incorporated in 1892, it is served by the Texas and New Orleans Railroad. La Porte is within a few miles of the San Jacinto Battleground. Pop. (1950) 4,429.

LA RABIDA, là rà'bē-dà, Spanish Franciscan convent of Santa María de Rábida on a hill near Palos in Huelva Province, Andalusia. Its historical interest identifies it with Christopher Columbus, who stopped there on the occasion of his projected visit to France to arouse interest in his theories. He succeeded in gaining the at-

tention of the prior, who besought and gained for him the interest of Queen Isabella. In 1492 a huge monument to Columbus was erected here. A copy of the convent was built in Chicago for the World's Fair of 1893 and was later used as a sanitarium for children.

LA REY, Jacobus Hercules De. See D. LA REY.

LA RIVE, là rêv', Auguste Arthur de, Swiss physicist: b. Geneva, Oct. 9, 1801; d. Marseilles, France, Nov. 27, 1873. He received the appointment to the chair of natural philosophy in the Academy at Geneva at the age of 21. First devoting himself to the study of the specific heat of gases, and of the observation of the temperature of the earth's crust, he soon turned his complete attention to electricity, making original discoveries in connection with magnetism, electrodynamics, the relation between magnetism and electricity, and the properties of the voltaic arc, and presenting new theories of the aurora borealis. He discovered a process of electroplating, for which he received a prize of 3,000 francs from the French Academy of Sciences. His chief work was a complete treatise on electricity.

LA ROCHEFOUCAULD, là rôsh-fôo-kô, Duc François de (PRINCE DE MARCILLAC) French courtier and moralist: b. Paris, Sept. 1, 1613; d. there, March 17, 1680. He entered on a military career and was engaged as an officer at the age of 16. In the wars and intrigues of the Fronde (q.v.) he served the party of the Parliament, took part in the defense of Bordeaux (1650), less from conviction than to please the duc de Longueville, and he was wounded at the Battle of Faubourg Saint Antoine (1652). At the end of the civil war he abandoned the pursuits of ambition for a life of repose and reflection. He frequented the salon of Madame de Sablé, and his house became a resort of the most distinguished wits and people of culture of the time, notably the duchess de Longueville, the marquise de Sévigné, and the comtesse de La Fayette (qq.v.).

The first fruits of his literary activity were his *Mémoires sur la Régence d'Anne d'Autriche*, a spirited representation of that time, published surreptitiously in 1662 without the author's knowledge, and by him repudiated; but his denial of the authorship was not generally credited. It is now believed that only about a third of the work is his. In 1665 appeared anonymously the work that has made his name immortal, *Réflexions, ou Sentences et Maximes Morales*, which passed through five editions in the course of the author's life, was subjected to careful revision by him and has frequently been republished. There are about 700 maxims, varying from two or three lines to half a page in length. No one prior to his day or since has given so much point, brevity replete with fullness, and cutting edge to his thoughts. The prevailing thought in the book is that self-love is the dominating spring of human action; virtue has its recompense, but in being virtuous it is only our desire to gain the recompense. This view is presented with such piquancy and variety of aspect that the reader is so much enamored of the author's skill in presenting his point of view that he forgets to condemn this libeler of the

man race. An English version by G. H. Howell appeared in 1903. Consult 'Lettres,' correspondence published 1818; Bourdeau, 'La Rochefoucauld' (1895); Hemon, 'La Rochefoucauld' (1896); Rahlstedt, 'Studien über La Rochefoucauld' (1888). See MAXIMS.

LA ROCHEFOUCAULD-LIANCOURT, lā'koo', François Alexandre Frédéric, French philanthropist and social reformer: b. La Roche Guyon, 11 Jan. 1747; d. Paris, 27 March 1827. He early entered the carbiniers as an officer, and after a visit to England he established a model farm and a school for the children of soldiers. The school from 1788 received royal support as the École des Enfants de la Patrie. He was elected to the States-general in 1789 and there carried forward his measures for social reform. While devoted to the person of Louis XVI he was by principle opposed to the government and endeavored to warn the king of the dangerous trend of public affairs. On 18 July, four days after the fall of the Bastille, he became president of the National Assembly, and afterward he was appointed to the command of a military division in Normandy. He hoped to secure the personal safety of the king and sought to have him take refuge in Rouen. Failing in this he aided the king with a large sum of money. During the Terror he found safety in England, and in 1795-97 he visited America. He returned to Paris in 1799 but took no part in politics, devoting himself to his projects of social betterment, and especially to the furtherance of vaccination. After the Restoration he entered the House of Peers. His school, the École des Enfants de la Patrie, received the favor and support of the successive governments and for 23 years he was government inspector of it. He founded the first savings bank in France and served as a member of boards of administration for hospitals, prisons and agriculture. He refused to support the government in 1823, which led to the loss of his positions and the abolition of his vaccination committee, the welfare of which he had greatly at heart. In protest the academies of science and medicine elected him to their membership. He never regained official favor. Author of 'Voyage dans les États—Unis d'Amérique' (8 vols., 1798); 'Les Prisons de Philadelphie' (1796).

LA ROCHEJACQUELEIN, lā rōsh-zhāk-lān, Henri Du Verger, COMTE DE, French Vendean royalist: b. Chatillon, 20 Aug. 1772; d. Nouaille, 4 March 1794. On the outbreak of the Revolution he retired to La Vendée, and the peasants of La Vendée having taken up arms in the royal cause, he placed himself at their head and addressed them in the short and pithy harangue: "Let us go to meet the enemy; if I draw back, kill me; if I advance, follow me; if I die, avenge me." After gaining 16 victories in 10 months he fell at Nouaille, shot by a Republican soldier whom he was offering quarter.

LA ROCHELLE. See ROCHELLE, LA.

LA RONCIÈRE LE NOURY, lā rōn'-syār lē noo'rē', Camille Adalbert Marie Clément, BARON DE, French vice-admiral: b. Turin, 1813; d. Paris, 1881. He was admitted to the École Navale in 1829, received rank as ensign in 1834, captain in 1855, rear-admiral in 1861, and vice-admiral in 1868. He was in charge

of the evacuation of Mexico in 1867; and at the outbreak of the Franco-Prussian War he was placed in command of the marines in the forts of Paris. He was at Saint Denis as commander-in-chief and participated in the battles before Paris, receiving the Grand Cross of the Legion of Honor in acknowledgment of his services. He was elected to the National Assembly in 1871 and to the Senate in 1876. He was an ardent supporter of the Bonapartes. Author of 'Considérations sur les marines à voiles et à vapeur de France et d'Angleterre' (1844); 'La marine au siège de Paris' (1872).

LA ROTHIERE, lā rō'tyār' France, village in the department of Aube, seven miles southwest of Brienne and 23 miles east of Troyes. It has historical prominence as the scene of a battle between the Allies under Blücher with 100,000 men and the French under Napoleon with 45,000 men, 1 Feb. 1814. Napoleon was defeated. The combined losses of the armies was 8,000 men, about evenly divided.

LA SALE, lā' sal', Antoine de, French writer: b. in Provence, probably at Arles, about 1388; d. 1462. He entered the court of Anjou in 1402, doubtless as a page, and spent his life in the employment of various kings and princes. He is reckoned the most important satirist of his day but there is considerable doubt as to his authorship of several works ascribed to him, as he never acknowledged them. There is no doubt that 'Le petit Jehan de Saintré' (1459) is from his pen, and it is the work upon which his fame rests. It is dedicated to Jean d'Anjou, Duke de Calabre, one of the several princes he tutored; and 'La Salade' (1438-47), a textbook of studies suited to a prince, was likewise dedicated to his pupil. He is credited with the authorship of 'Les Quinze Joyes de Mariage,' one of the most celebrated of French satires and his claim is fairly well substantiated. The 'Cent nouvelles nouvelles' were long ascribed to Louis XI, but critics in general now credit the work to La Sale. The stories are modeled on the style of the Italian *novella* and are of a licentious character. There are numerous other works credited to him by various critics. 'La Salade' was printed several times in the 16th century, while the 19th century saw editions of his other works. The best editions are Guichard, J. M., 'Petit Jehan de Saintré' (1843); Wright, T., 'Les Cent Nouvelles Nouvelles' (1858); and Jannet, P., 'Les Quinze Joyes de Mariage' (1857).

LA SALETTE, lā sa'lēt, France, place of pilgrimage in the parish of La Salette-Fallavaux, department of Isère, 23 miles southeast of Grenoble. On 19 Sept. 1846, in an afternoon of full sunlight, the Virgin Mary is said to have appeared before two peasant children, Mélanie Calvat, called Mathieu, aged 15, and Maximin Giraud, aged 11. While the story was openly discredited outside the Church, and violently disputed within it, a great church was built there, the foundation for which was laid 25 May 1852. Miraculous cures are said to be wrought there and the church as a place of pilgrimage is second in fame only to the Lourdes. Consult Verdunoy, 'La Salette, étude critique' (Paris 1906).

LA SALLE, Jean Baptiste de, SAINT, French priest and educator, called the father of modern pedagogy: b. Rheims. 30 April 1651;

d. Saint-Yon, 7 April 1719. After completing the preparatory course of humanities, he entered the university of his native city where, at the age of 19, he took his master's degree. Shortly afterward he went to the Seminary of Saint Sulpice at Paris; and, while living there, followed the theological courses of the Sorbonne. On Easter eve 1678, he was ordained priest, being already a titular canon at the Cathedral Church of Rheims; two years later, in 1681, after defending a thesis before the faculty of the University of Rheims he obtained the degree of doctor in sacred theology.

A man of means and academic culture, he was also a friend of the people, a true philanthropist, giving away all his patrimony in alms to help the deserving poor. He interested himself at an early period in education, especially the education of children belonging to the humbler classes. He noticed that nowhere was there a clear distinction drawn between primary and secondary education and that nowhere was there any provision made for instructing school-children in subjects of acknowledged utility to them in after life. To correct this state of affairs he founded in 1681 a society of teachers under the name of Brothers of the Christian Schools (q.v.), enjoining them by rule to take the vows of religion but not to enter holy orders. By this latter regulation, he sought to free them from ecclesiastical duties so that they might be able to devote themselves unreservedly to the work of education. The rules and constitutions of the society were approved in 1724 by Pope Benedict XIII.

The first great change introduced by De la Salle and successfully carried out by his followers was the substitution of French for Latin as the language of the classroom. As in the case of antecedent reforms, this roused a swarm of wrathful critics; but it soon met with the approval of the universities and highest authorities in church and state.

The individual system of teaching was then in vogue, and as it seemed to him to involve loss of time and to favor idleness, he replaced it by the "simultaneous" method in which the teacher addresses himself to a numerous division and frequently to a whole class at a time. He insisted on the Socratic method of teaching for all subjects, rejecting the lecturing style as unsuited to elementary instruction. He also recommended the frequent use of object-lessons. Such thorough-going changes gave a great impetus to education inasmuch as it increased the efficiency of the teacher while diminishing his drudgery, and ensuring substantial results. In due time, these bold innovations in educational method brought about a general system of popular education in France as well as in other European countries, and merited for their author the title of Father of Modern Pedagogy. In 1684 he opened a *Seminaire de Maîtres d'Ecole* for the formation of competent masters for the rural districts, which seminary was the first normal school or training college founded in Europe. Admission was by examination; and during the course, opportunities were afforded for practice-work by the free schools attached to the institution. In his endeavors to instruct the masses and educate the people, De la Salle established in Paris in 1699 regular public courses in science and art in which instruction was given to all comers on Sunday

from 12 to 3, the session being always concluded by a short religious instruction. These schools were called *Ecoles Dominicales* and were, in some respects, the prototype of our Sunday schools. At Saint-Yon, near Rouen, he also founded a school of higher studies in which the students were allowed to select the courses best adapted to their wants. De la Salle lived to see his society firmly established in France and his educational work appreciated at home and abroad. Among his published writings are 'Le Devoir du Chrétien' and 'La Conduite des Ecoles'; others are of an ascetical character and refer to the religious life.

This great educator and benefactor of the people was of a gentle yet firm disposition; severe to himself but kind and encouraging to others. The holiness of his life was proclaimed to the world by Pope Leo XIII, who on 24 May 1900 conferred on him the honors of canonization and enrolled him among the saints of the Catholic Church.

LA SALLE, René Robert Cavalier
SIEUR DE, French explorer; b. Rouen, France, 21 Nov. 1643; d. Texas, 19 March 1687. Born of a wealthy family, he became a novice of the Jesuit order, 5 Oct. 1658, and two years later took the vows and was known as Brother Robert Ignace. In October 1667 he left the order. He sailed for Canada in 1668 with the hope of making his fortune there; became owner of a seigniory and a fur trader at La Chine (so named for its supposed position on the route to China), explored Lake Ontario, established forts on the Saint Lawrence, was made by Frontenac commander of a fort which stood where Kingston, Ontario, now stands, and was the discoverer of the Niagara and Ohio rivers. Returning to France he received large grants of land in Canada, and was ennobled, but on the discovery by Marquette of the Mississippi, he left his new estate to seek the mouth of the great stream. His designs were favored by the French Minister of Marine, who supplied him with men and ships. In 1679 he had built and launched on the Niagara River a bark of 45 tons, the *Griffin*, crossed Lake Erie and Lake Saint Clair, and reached Green Bay. Here he loaded the *Griffin* with rich furs and sent it to meet the claims of his creditors at Montreal. He then proceeded in bark canoes and reached the banks of Lake Peoria, Illinois, where he built Fort Crèvecoeur, and from thence he made a memorable journey, mostly on foot, back to Fort Frontenac, where he learned of the wreck of the *Griffin*, and another ship sent with supplies for him from France. In the meantime his little band of explorers had been scattered through dissensions, but he succeeded in gathering them and, late in 1681 he set out with an expedition and descended to the mouth of the Mississippi, of which he took formal possession in name of the French king (9 April 1682), and named the adjacent lands Louisiana, and built a fort. This was the great achievement of his life. In 1683 he constructed Fort Saint Louis, on "Starved Rock," near Utica, Ill. The recall of Frontenac was disastrous to the explorer's interest; his successor, La Barre, was hostile to western expansion. After a visit to France he failed on his return (1684) with 4 vessels and 280 men, to locate the mouth of the Missis-

ppi. He had a difference on this point with eaujeu, the naval commander, who persisted in sailing on to Matagorda Bay in Texas. Here a Salle, to avoid further quarrels and recriminations, abandoned his companions; the colonists who followed him lost most of their supplies in a gale of wind, but managed to fortify the fort of St. Louis; they failed in their agricultural attempts, and sought in vain for gold. Their numbers were reduced to 35, and in 1687 he set out for a return to Canada. Two men, Dubant and l'Archevêque, who had embarked capital in the enterprise, were incensed at its failure, and in a quarrel murdered the nephew of La Salle, who, when he enquired into the matter, was shot dead from ambush.

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LA SALLE, là sal', city, Illinois, in La Salle County, altitude 638 feet, on the Illinois River and the Great Lakes, 90 miles southwest of Chicago. It is served by the Illinois Central, Rock Island, Burlington and La Salle, and Bureau County railroads.

With Peru west and Oglesby south, La Salle forms a tri-city unit. The La Salle-Peru-Oglesby Junior College has school buildings in La Salle and a stadium in Peru.

The city is in a former coal mining region with rich deposits of limestone, silica, sand and fire clay. The principal industry is clocks and watches, cement, and zinc. Other items of manufacture are: acids, air-conditioning equipment, animal feed, beer, beverages, brick chemicals, coal furnaces, electric capacitors and condensers, electric armatures, and motors, electric controls, furniture, grinders, glaziers' points, millwork, nails, plating, potassium permanganate, prefabricated metals, replacement radiators, shoes and wire recorders.

The town was founded about 1827 when the Illinois and Michigan Canal was planned, and was named in honor of the explorer, La Salle. Nearby is the site of Fort Wilbourne of Black Hawk fame, where on June 16, 1832, Abraham Lincoln enlisted in the company commanded by Jacob N. Early. The city was chartered in 1852. Pop. (1950) 12,083.

LA SALLE COLLEGE, an educational institution in Philadelphia, Pennsylvania, founded in 1863 under the auspices of the Roman Catholic Church. It is under the management of the Brothers of the Christian Schools. In 1950-1951 there were 75 instructors, 1,375 students and more than 15,000 volumes in the library, and the grounds and buildings were valued at \$1,982,000.

LA SELLE, là sél', mountain group, Haiti, West Indies, on Hispaniola Island. The highest peak is La Selle, 8,793 feet.

LA SERENA, là sà-rā'nā, city, Chile, capital of the Province of Coquimbo on the Pacific coast, 215 miles north of Valparaíso. A railroad connects it with Coquimbo, eight miles distant. Other railroads connect it with Vicuña and Riva-

davia in the interior, and with Valparaíso and Santiago to the south.

La Serena is a commercial and agricultural center trading in dried fruit, barley, flowers, and livestock. Exports are mineral ores (copper, silver, gold, manganese). Industries include tanning, brewing, soap-making, and olive-oil processing. Founded in 1544, La Serena was declared a city in 1554. Pop. (1949 est.) 23,130.

LA SERNA Y HINOJOSA, là sēr'nā è è-nô-hô'sā, José de, Spanish general and viceroy: b. Jérez de la Frontera, 1770; d. Cadiz, 1832. He served in the Peninsula War and was with Wellington in 1813, and in 1815 received rank as field-marshal. In 1816 he commanded the Royalist Army in Upper Peru. Acting against his own judgment, but in accordance with that of the viceroy, Pezuela, he was defeated by the patriots at Salta and Jujuy and resigned in 1819. The threatened invasion of San Martín induced him to accept the post of commander in chief of the forces against the patriot chief, and on Jan. 29, 1821, he succeeded his old antagonist, Pezuela, as viceroy. He was compelled to evacuate Lima, July 6, 1821, but set up his capital at Cuzco, and although cut off from Spain for three and a half years defended the interior successfully until the Battle of Syacucho, Dec. 9, 1824, when he was defeated and with his army captured by Sucre. He returned to Spain in 1825, was created Count of the Sudes, and was otherwise honored.

LA SEYNE-SUR-MER, là sâ'n'sür-mâr', seaport commune, France, in Var Department, on Mediterranean Sea, 4 miles southwest of Toulon. It has large shipbuilding works and sawmills. Pop. (1946) 27,073.

LA SIZERANNE, là sêz-rân', Maurice de, French philanthropist: b. Tain, Department of Drome, 1857; d. there, 1924. He was blind from the age of nine, was educated at the Jeunes Aveugles in Paris and later was appointed professor there. He especially occupied himself in connection with literature for the blind, perfecting an abbreviated orthography for the blind widely adopted in France.

He was the founder of the *Revue Braille*, and was a chevalier of the Legion of Honor. He was author of *Les Aveugles par un aveugle* (1888); *Les Aveugles utiles* (1896); *Les Soeurs aveugles* (1901); and *La Question des aveugles* (1911).

LA SIZERANNE, Robert de, French writer and art critic, brother of Maurice de La Sizeranne (q.v.): b. Tain, in the Department of Drôme, 1866. He was educated at the College de Vaugirard, Paris, was admitted to the bar in 1895, but turned to the study of art for a career. He received the Vitet Prize from the French Academy in 1909.

He was a contributor to the *Revue des Deux Mondes* and the *Revue Encyclopedique*, author of *La Référendum communal* (1893); *La Peinture anglaise contemporaine* (1895); *Ruskin et la religion de la beauté* (1897); *Le Miroir de la vie* (1902-1909); *Le Vertueux condottiere Federigo de Montefeltro duc d'Urbino* (1928).

LA TENE PERIOD, name given a European period of culture also known as the second early Iron Age, or Marnian period, extending about

400 B.C. to the Christian era. It is named for La Tène, an ancient Celtic settlement near Marin, Lake Neuchâtel, Switzerland, where remains include iron objects—50 swords, 23 spearheads, 5 axes, 4 knives, with scythes, rakes, plows—and more than 100 personal ornaments of bronze, silver, and other materials. The characteristic types of fibula, bead, and other ornaments are found in Gaul, Britain, Scandinavia, Bosnia, and Scythia. The period succeeds the Hallstatt epoch (q.v.). Early Tenean types (400–250 B.C.) come from 30 sites in England. Middle Tenean (250–150 B.C.) are poorly represented. Late Tenean (150–1 B.C.)—called by the Franks late-Celtic—are well represented at Bibracte, in the Glastonbury lake villages, and at Aylesford, Kent, where a bronze-bound bucket bore fantastic horse designs identical with those on a La Tène scabbard. The pottery was wheel-made, and the scroll ornament marks the beginning of that Celtic art which found its highest development in Britain. See also *ARCHAEOLOGY—Iron Age*.

LA TOUR, là tōor, **Maurice Quentin de**, French portrait painter: b. St. Quentin, Sept. 5, 1704; d. there, Feb. 18, 1788. His art was largely self-developed. He first exhibited in the Salon in 1737, and in the succeeding 37 years he showed there some 150 pastel portraits of exceptional beauty and excellence; he was elected to the Academy in 1746, and was appointed painter to the king in 1750. His sitters included the royal family and the fashionable members of the court. Probably the finest specimen of his art is the portrait of Madame de Pompadour, executed in life-size and exhibited in the Salon in 1755. His portraits of Louis XV, his consort, the dauphin and dauphiness, Voltaire and Rousseau are regarded as being almost as valuable for their historical exactitude as for their high art value. The splendid collection of his work owned by the museum at St. Quentin consists of portraits which were in his own possession at the time of his death; many of these are sketches for his finished portraits and afford a rich field for study.

LA TOUR D'Auvergne, là tōor' dô-věrn'y, **Théophile Malo Corret de**, French soldier: b. Carhaix, Brittany, Nov. 23, 1743; d. Oberhausen, Bavaria, June 27, 1800. Enlisting in the army in 1767, he steadfastly refused promotion beyond the rank of captain. He displayed extraordinary valor during the Revolutionary wars in the Alps and Pyrenees, but was forced by ill health to leave the army in 1795; returning to Brittany by sea, he was captured by the British and imprisoned for two years. Rejoining the army in 1797, he fought in Germany and Switzerland; by a decree published on April 27, 1800, he was named "First Grenadier of France." He was killed in action while serving with the Army of the Rhine. His courage, simplicity, and modesty having made him a hero, remarkable honors were paid to his memory. Bonaparte ordered his name to be kept on the roll of the 46th regiment, and called at parades, when a sergeant was to reply *Mort au champ d'honneur* (Dead on the field of honor). His heart was embalmed and carried in a silver box by his regiment, and in 1889 his body was interred in the Pantheon, at Paris.

LA TRAPPE, là tráp', name of a Cistercian abbey of France. It lies in hilly country in the department of Orne, 26 miles northeast of Alençon and 2½ miles from Soligny. Founded in 1140 by Count Rotrou de Perche, it was known as Notre Dame de la Maison Dieu; from its situation in a damp, unhealthy glen, accessible only by a narrow stony passage it was called La Trappe (the trap). The monks were as distinguished for austerity during the 14th and 15th centuries as they subsequently became for licentiousness and violence, when they were known as the Bandits of La Trappe. The monastery however, passed into the hands of Armand Jean le Bouthillier de Rancé (q.v.) in the middle of the 17th century. The brilliant abbot had early abandoned himself to worldliness, but became converted, introduced Benedictine monks into La Trappe, and enforced severe discipline. The brethren rose at 2 A.M., retired at 7 P.M., slept on straw, were forbidden wine and flesh, spent each evening some time in digging their own graves, and never spoke excepting to say to each other, "Memento mori." Rancé discouraged literary pursuits but enforced constant manual labor; he died in 1700, and the Trappists were driven out of France by the revolution. They founded a house at Valsainte, Switzerland, which was destroyed by the French in 1798, but they were again put in possession of La Trappe on the restoration of the Bourbons. In 1829 the Trappist houses were closed by a royal decree, and all but nine monasteries were suppressed; these were compelled to seek refuge in Algiers 1844, and the United States in 1848, where they established houses in Kentucky, Iowa, and Rhode Island.

LA TREMOILLE, là trā-mōō'y, **Louis de, VICOMTE DE THOUARS**, twār, **PRINCE DE TAJMONT**, tál-môn' (known as **CHEVALIER SANS REPROCHE**, shē-vá-lyā' sän' rē-prōsh'), French soldier: b. Sept. 20, 1460; d. Pavia, Italy, Feb. 24, 1525. A member of a distinguished family of France, in 1488, while in command of the army of Charles VIII invading Brittany, he defeated and captured the duke of Orleans at the battle of Saint-Aubin-du-Cormier. Louis XII gave him command of the army of Italy; he fought at Fornova in 1495, and conquered the Milanese in 1500, but was defeated in the Neapolitan territories in 1503 and by the Swiss at Novara in 1513. La Trémoille fought at Marignano in 1515, and during 1521–1523 he successfully defended Picardy; he was killed in action at the battle of Pavia.

LA TUQUE, là tük', Canada, town in Champlain County, Province of Quebec, on Saint Maurice River 85 miles northwest of city of Quebec. It contains a college, convent and technical school. Situated in the midst of a lumbering region, pulp manufacture is the major industry. A trading post was established on the site by early French colonizers; the town grew considerably after it was reached by the Canadian National Railway in 1908. Pop. 7,95

LA VALETTE, là vā-lět', **Antoine Mar Chamans, COMTE DE**, French statesman: Paris, 1769; d. Feb. 15, 1830. He served under Napoleon in the Italian and Egyptian campaigns, became French minister to Saxony during the First Empire, and was subsequently postmaster

meral of France and a councilor of state. Sentenced to death after the Restoration, he was smuggled out of prison by his devoted wife, milie Louise de Beauharnais (1780-1855). Much information concerning the First Empire is found in his *Mémoires et Souvenirs du Comte de La Valette* (2 vols., 1831; new ed., 1905).

LA VALETTE, Jean Parisot de, French soldier: b. Toulouse, 1494; d. Valletta, Malta, Aug. 28, 1568. Elected in 1557 grand master of the Knights of Malta (see JOHN, ORDER OF SAINT), he conducted a renowned defense of Malta against the Turks from May 18, 1565.

LA VALLIERE, là vâ-lyâr', Françoise Louise de la Baume Le Blanc, DUCHESS DE, mistress of Louis XIV of France: b. Tours, Aug. 7, 1644; d. Paris, June 6, 1710. In 1661 he went to the royal court as maid of honor to Henrietta, Duchess of Orleans (q.v.), and soon attracted the attention of the king. Their intimacy developed into a liaison which lasted for some six years, during which she bore four children to the king; she was created a duchess in 1667. Superseded by the Marquise de Montespan (q.v.), in 1674 La Vallière retired into a Carmelite convent, taking the veil the next year. She was reputedly the author of *Réflexions sur la Miséricorde de Dieu* (1685).

LA VERENDRYE, là vâ-rân-drê', Pierre Gaultier de Varennes, SIEUR DE, explorer in America: b. Three Rivers, Canada, Nov. 17, 1685; d. Quebec, Dec. 6, 1749. His maternal grandfather was Pierre Boucher (q.v.), governor of Three Rivers. Entering the French colonial army, he served in the French and Indian wars, taking part in the raid on Deerfield, Mass., in 1704. From 1707 to 1711 he was an army officer in Europe, fighting in the War of the Spanish Succession, and thereafter resumed service in Canada. Appointed in 1726 to command of a military post on Lake Nipigon, north of Lake Superior, he learned from the Indians of routes by which the West might be reached, and three years later returned to Quebec seeking permission for exploration. He was promised a monopoly of the fur trade in whatever regions he might discover, and in 1731 he commenced a series of explorations in company with three of his sons—Jean Baptiste, Pierre, and François—and a nephew, La Jemeraye. Pushing westward from Lake Superior, he built Fort St. Pierre on Rainy Lake and, in 1732, Fort St. Charles on Lake of the Woods. In 1734 Fort Maurepas was erected on the shore of Lake Winnipeg, but disaster overtook the expedition in 1736, La Jemeraye dying in May and later in the summer Jean Baptiste and other members being murdered by Sioux Indians on Massacre island, Lake of the Woods. Nevertheless La Verendrye continued to push westward, his party now joined by his fourth son, Louis Joseph. He constructed Fort La Reine on the Assiniboine River in 1738, and Fort Rouge on the site of the future city of Winnipeg, Manitoba, and then journeyed overland to the villages of the Mandan on the Missouri River. During 1742-1744 four of the party reached mountains to the westward variously identified as the Rockies or the Black Hills. A leaden plate which they turned on the return journey at Fort Pierre, South Dakota, was unearthed in 1913 by some

school children. In 1744 he was ordered to remain in French Canada, command of the western posts being entrusted to another officer; for his services, in 1747 he was awarded the Cross of St. Louis. Given permission in 1749 to resume his explorations, he died while making preparations for another expedition. He is regarded as the discoverer of Manitoba, the two Dakotas, the western plains of Minnesota, perhaps part of Montana, and a great area of western Canada. His name is commemorated in the Verendrye National Monument (q.v.). Consult Burpee, Lawrence J., ed., *The Journals and Letters of Pierre Gaultier de Varennes de la Verendrye and His Sons* (Toronto 1927).

LA VICTORIA DE JUNIN, là vèk-tô' ryâ dâ hoo'nin, ode by José Joaquín Olmedo (q.v.), published in 1826. During the Peninsular War, in Spain, Manuel José Quintana (q.v.) cried out in his heroic odes against the attempted conquests by Napoleon, and in similar fashion Olmedo voiced the spirit of revolt in the Spanish colonies which rose against the tyrannous exactions of the motherland and combated the Spaniard as a wicked dominator. On Aug. 6, 1824, the forces of the Liberator, Simon Bolívar (q.v.), won a signal victory over the Spaniards at Junin, in the viceroyalty of Peru. This triumph was followed on December 9 of the same year by the decisive Battle of Ayacucho, in which Antonio José de Sucre (q.v.), a lieutenant of Bolívar, vanquished a Spanish army with his smaller body of patriots. As a result of the two victories, the independence of Peru, and ultimately of all Spanish America, was achieved. The Liberator requested Olmedo to celebrate the two battles, and he responded with the long ode entitled *La Victoria de Junin Canto a Bolívar*, which was published at London in 1826. With Quintana's odes as his model—and he doubtless had the heroic verse of Juan Nicasio Gallego (q.v.) in mind also,—Olmedo has written a noble paean to Bolívar, which bears witness to the magnitude of that warrior's whole military career and not merely to the significance of the two military exploits which the poet was asked to commemorate. The magnificent scenery of the South American forests provides a background; the poet's reminiscences of Horace, Virgil, and other classic writers supply no small part of the imagery abounding throughout the 800 verses of the Canto. Unfortunately, the supernatural is introduced without the support of a vision or dream, and there is all too much hyperbole in the terms of praise lavished upon Bolívar and his generals. This latter fact was stressed by Bolívar himself in a letter to the poet, which shows that the Liberator was a man of wonderful good taste in matters of literary criticism. The ode opens with an account of the thunderous effect of the victory of Junin and of the revelry in which the Spanish-American camp is engaged on the night following it. Suddenly there appears in the clouds the shade of the Inca, Huayna-Capac, who apostrophizes and vilifies the Spaniards and, prophesying the approaching victory of Ayacucho, gives good counsel to Bolívar. When the Inca has ended his long address, the Virgins of the Sun surround him and break out into beautiful choral song. Then, as all are still listening in rapt wonder, the supernatural visitors disappear. Critics agree in finding the

ode a work of freshness and vigor, containing brilliant passages of an epic and a lyric nature.

JEREMIAH D. M. FORD.

LA VILLEMARQUE, la vël'mär'kă, Théodore Claude Henri Hersart, VICOMTE DE, French antiquary and Celtic Scholar: b. Quimperlé, Brittany, 7 July 1815; d. there, 8 Dec. 1895. His first notable literary achievement was the collection and translation into French of the folksongs of Brittany, accompanied by their melodies. These were followed by the prose legends of the same district, and he next made an important contribution to the knowledge of Celtic verse of the 6th century, also translated into French, thereby establishing his reputation as an authority in that field. His further labors included the collection and translating of the prose legends of Ireland, Cambria and Brittany. He wrote a number of textbooks on the subject, and edited after the death of De Le Gonidec his 'Dictionnaire français-breton' (1847-50). Author of 'Barzas-Breiz' (2 vols., 1839; 6th ed. 1867); 'Contes populaires des anciens Bretons' (2 vols., 1842); 'Nouvelle grammaire bretonne' (1849); 'Poèmes des bardes bretons du vi^e siècle' (1850); 'Notices des princepsaux manuscrits des anciens Bretons' (1856); 'Légende celtique en Irlande, en Cambrie et en Bretagne' (1859); 'Myrdhinn ou l'Euchanteur Merlin' (1861); a Breton drama of the Middle Ages, 'Le Grand Mystère de Jésus' (1865); 'Poèmes bretons du moyen âge' (1879); 'La légende de Saint Gurthiern' (1880).

LA VITA NUOVA, la vë'ta noo-ô'va, ('The New Life'). 'La Vita Nuova' is the proper introduction of the reading and understanding of Dante's 'Divina Commedia' (q.v.). It is autobiographical, in that it purports to tell of his first meeting with Beatrice, when he was nine years of age, and how from that time «Love lorded it over his soul,» how he saw her from time to time and with constantly increasing devotion attempted to keep secret his passion for her. He predicts her early death, and when his prediction is verified he portrays his intense sufferings. Then in an interlude he tells of the change that has taken place in his life, and in the last part he enlarges on his renewed love for the glorified Beatrice and his resolve to study so as to compose a suitable memorial for her. The first 17 chapters embody nine sonnets and a ballade, describing his youthful love and the physical charms of his bellissima donna. Then follow 11 chapters which glorify her spiritual beauties, with seven sonnets and three canzoni, which he calls «new rimes,» wherein the tongue spoke of its own accord. Here he relates his deeds and thoughts. The poems in these chapters were composed between the age of 22 and 25. The next seven chapters tell of Beatrice's early death, and contain two canzoni and two sonnets expressing his grief. The last makes a false start and begins anew. Four chapters treat of his love for another lady, who had shown him compassion. Each of them leads up to a sonnet. Then his love for Beatrice reawakens and in three chapters, each ending with a sonnet, he relates his acts and thoughts till he is 35, when, according to his chronology, he had the experiences described in the comedy. In the last chapter he has a wonderful vision and prom-

ises to say of Beatrice «what was never said of any woman.»

It will be seen that the prose narration of 'La Vita Nuova' is a setting for Dante's love-poems. It explains how each sonnet, ballade and canzone came to be written. Moreover, he appends to almost every one an elaborate and very artificial analysis of it. Dante when he was writing this work was studying the Commentaries of Saint Thomas Aquinas, and as that learned man often treated Aristotle's statements with a formal analysis, the poet followed his example. Boccaccio tells us that the poet regarded these as a blemish and wished that he had omitted them. They have annoyed many students of the Vita Nuova. Dante Gabriel Rossetti left them out of his translation.

Students of Dante have differed widely in their interpretation of the meaning of the title of the work, as well of the work itself. Some have regarded it as wholly symbolical and have understood Beatrice to be not a woman of flesh and blood but a type of mystical love. The same differences are found in the various commentaries of the Comedy. The truth is that Dante incorporated in the 'Vita Nuova' and in the 'Convito' ('The Banquet or Love-Feast') the minor poems which he wrote at various periods of his life. His earliest sonnet, written in 1283 when he was 18, is found in the third chapter, where he tells of having had a marvelous vision, and writes the sonnet, saluting all the «faithful of Love» and requesting that they expound it for him; he adds that many made answer, in many diverse ways. The sonnets and other lyrics in the first part of the 'Vita Nuova' are imitations of the Provençal troubadours; in the latter part, where Dante is supposed to have freed himself from this influence, the poems show more maturity, as of course they were written later. Dante in this brief composition, especially in the prose framework, betrays his recent study of Aristotle's 'Physics,' 'Metaphysics' and 'Ethics.' This is particularly evident in the pedantry of the style, which is artificial; and yet it breathes of that gay and beautiful Florence which was then coming to be one of the most prosperous cities of Italy. Dante's delineation of Beatrice has been the admiration of poets and artists for centuries. Charles Eliot Norton calls her «the most delightful personage in the daily picturesque life of Florence . . . the loveliest and most womanly woman of the Middle Ages.»

'La Vita Nuova' was first printed in Florence in 1576, with reprints in 1723, 1877, and was copied in Pesaro 1529, in Venice 1840 and in Livorno 1843. It was published with English and Italian text by Luigi Ricci (London 1903). It was translated into English by Dante Gabriel Rossetti (London 1861); by Theodore Martin (London 1862); by Charles Eliot Norton (Boston 1867; revised ed., 1892, with essays and notes); by Charles Stuart Boswell, with notes and introduction (London 1895). It was published with illustrations and with music by Alfred Mercer (New York 1914).

NATHAN HASKELL DOLE.

LA VOISIN, la vva'zăn' (real name CATHERINE MONVOISIN), French sorceress: b. Paris, 20 Feb. 1680. She was a fortune-teller practising the most obnoxious arts of the pre-

ession, and was a midwife and medical practitioner of evil repute, but enjoyed a wide patronage among the grande dames of the court of Louis XIV. She also belonged to the coterie of professional poisoners whose activities at length became so notorious that in 1679 a royal commission was appointed to investigate and bring the offenders to justice. La Voisin was accused in particular of an attempt to poison Louise de La Vallière, mistress of Louis XIV, supposedly at the instigation of the Comtesse de Soissons. The sessions of the commission were for a time interrupted owing to the fact that its findings established guilt in such high quarters that exposure would have brought intolerable scandal upon the court, but while several of the chief offenders were shielded the commission resumed its work and many of the poisoners were convicted and executed. La Voisin was the first to be executed, first having been tortured. Consult Funck-Brentano, F., 'Le drame des poisons' (1900); Masson, A., 'La sorcellerie et la science des poisons au XVII^e siècle' (1903).

LAAGER, lā'gēr (Dutch, «a camp»), in South Africa, an encampment more or less fortified. The original Boer laager was an enclosure formed by the wagons of a traveling party for defense against enemies.

LAALAND, lā'lānd, or **LOLLAND**, an island of Denmark, in the Baltic Sea, between the islands of Falster and Langeland. Its greatest length, southeast to northwest, is 36 miles; breadth, varying from 9 miles to 17 miles; area, 447 square miles. It forms with Falster the district of Naribo. The surface, as implied by its name, meaning «low land», is so very little raised above the sea, the highest part being only 95 feet above sea-level, that parts of it along the coast are subject to frequent inundations, and for a considerable distance around it the water is so shallow that there are few places in which vessels drawing eight feet can approach it without danger. The soil, consisting generally of a heavy loam, is very fertile, and yields excellent crops of corn, beans, hops and hemp are extensively grown. Varieties of hardwood timber are abundant. Pop. 71,280.

LAAR, lār, or **LAER**, Peter van, Dutch painter: b. Haarlem, Netherlands, 1590; d. sometime after 1658. Early in life he went to France, and subsequently visited Italy (1623). Here he mainly resided at Rome, where he became associated with Claude Lorraine, Poussin and Sandrart. He was small and crooked in stature and was thus called by the Italians «Bamboccio», and the comic scenes of rustic life painted in his style became known as «Bambocciads.» He returned to Haarlem in 1639. He painted pastoral and banditti scenes, fairs and such like rural incidents, with spirited and vigorous brush, although his coloring is somewhat hard. A masterpiece of his, 'The Market Crier,' is in the gallery at Cassel. Other pictures of his are to be found at London, Paris, Dresden, Vienna and Munich. About 20 etchings from his hand are also extant, chiefly animals and landscape, which are spirited and finely executed.

LAAS, lās, Ernst, German philosopher and pedagogue: b. Fürstenwalde, 16 June 1837; d. Strassburg, 16 June 1885: He studied at the

Berlin University, at first theology then philosophy, under Trendelenburg. He became teacher (1860) at the Friedrich Gymnasium, then (1868) at the Wilhelms Gymnasium, and was given (1872) the degree of adjunct-professor of philosophy at the newly founded Strassburg University. He leaned toward empiricism which induced him to write 'Idealismus und Positivismus' (Berlin 1879-84), differing from Plato and Kant and more nearly following the English theories of Hume and Mill. He became a leading representative of positivism in Germany. As pedagogue an epoch-making work of his was 'Der deutsche Aufsatz in den obern gymnasialklassen' (Berlin 1868; 3d ed., by Imelmann, 1898). He wrote also 'Der deutsche Unterricht auf höheren Lehranstalten' (ib. 1872); 'Gymnasium und Realschule' (ib. 1875); 'Kants Analogien der Erfahrung' (ib. 1876). His 'Literarischer Nachlass' was edited by Kerry (Vienna 1887) and contains a short dissertation on pedagogy. Consult Hanisch, 'Der Positivismus von Ernst Laas' (Halle 1902); Gjürts, 'Die Erkenntniss Theorie des Ernst Laas' (Leipzig 1903); Kohn, P., 'Der Positivismus von Ernst Laas' (Bern 1907).

LABADIE, Jean de, French mystic and separatist: b. Bourq en Guienne, 13 Feb. 1610; d. Altona, Prussia, 13 Feb. 1674. He was educated at Bordeaux by the Jesuits and belonged to their order till 1639. He then quitted it, both because irregularities were detected in his conduct and he was found to have adopted many very peculiar and extravagant views. For these he was cited before the Parliament, but fled to Geneva. At a later period he returned to France and took up his residence in Amiens, whose bishop entrusted him with the visitation of the monasteries in his diocese. He also found a patron in the archbishop of Toulouse. His zealous opposition to some of the clergy subjected him again to persecution, and to escape from it he, in 1650, went over to the Reformed Church, but not finding himself so comfortable as he expected, he thought he had received a call to found an apostolic church for himself. He now became a preacher in Montauban, and afterward, on being obliged to leave it, in the town of Orange, from which he proceeded successively to Geneva, Middleburg and Amsterdam. In the last city he collected his followers into a distinct church or society under the name of Labadists. They were anabaptists, believed in the community of goods, held that marriage with the unregenerate was not binding, and that the children of the regenerate were born without original sin. Toleration being now denied him, he in 1670 proceeded to Herford, where the Palsgravine Elizabeth gave him protection. Driven thence by an imperial edict in 1672, he went first to Bremen and finally to Altona, where he held private meetings. See LABADISTS.

LABADISTS, followers of Jean de Labadie (q.v.), whose doctrines were a compound of mysticism and Calvinism. The sect was formed at Amsterdam in 1669. Its two most prominent defenders were Anna van Schurmann and Antoinette Bourignon. The Labadists, proposing to form a colony in America after failure in Surinam, S. A., sent over (1678-79) two of their number, Dankers

and Sluyter, to spy out the land and report. To these men, in their journal, translated into English and published by the Long Island Historical Society, we owe the existence of a most lively, not to say rather tart descriptions and criticisms of the Dutch and other folk in the middle colonies. The Labadists made a settlement, first in New York, which mismanaged, impoverished the home congregations and failed. Another was made later in Maryland which continued during a generation or two, but after the death in 1722 of Dankers, the leading spirit, was abandoned and the name and faith were lost among the dispersed. Consult the 'Journal of Our Voyage to Neuw Nederlandt, begun in the Name of the Lord and for His Glory.'

LABAND, la'bānt, Paul, German jurist: b. Breslau, 24 May 1838. He studied law at Breslau, then Heidelberg and Berlin and was appointed private teacher (1861) of German law at Heidelberg. He was made adjunct-professor (1866) at Königsberg, and went (1872) in the same capacity to Strassburg. He devoted his work chiefly to state law and commercial law, on which subjects he wrote 'Das Budgetrecht nach den Bestimmungen der preussischen Verfassungsurkunde' (Berlin 1871); 'Das Finanzrecht des Deutschen Reichs' (in Hirth's *Annalen* 1873); 'Das Staatsrecht des Deutschen Reichs' (Tübingen 1876-82; 5th ed., 1901), his greatest work, of which he issued an abridged edition in Marquardsen's 'Handbuch des öffentlichen Rechts der Gegenwart' (Freiburg 1883; 6th ed., 1912). He was coeditor of *Zeitschrift für das gesamte Handelsrecht* from 1864, and founded (1886), with F. Stoerk, the *Archiv für öffentliches Recht*, and was long editor of *Deutsche Juristenzeitung*. 'Direkte Reichssteuern' was published 1908. Died, 1918.

LABARUM, the name given from the time of Constantine to the imperial banner and intended to commemorate the vision of the cross in the sky which was the cause of the emperor's conversion. Eusebius has described it with much particularity. It was in the form of a long pike, crossed at a certain height by a beam, from which depended a banner richly embroidered with gold and adorned with precious stones. The pike was surmounted by a crown of gold, enclosing within it a monogram of the two initial letters of the name of Christ.

LABAT, Jean Baptiste, zhōn bāp'tēst lä-bā, French Dominican missionary and traveler: b. Paris, 1664; d. there, 6 Jan. 1738. In 1693 he went as a missionary to the French Antilles, landed at Martinique and undertook the care of the parish of Macouba, which he superintended for two years, after which he was sent to Guadeloupe. His mathematical knowledge recommended him to the governor there, whom he accompanied during a tour through the island to assist him in selecting the points best adapted for works of defense. On his return to Martinique Labat received the office of *procureur-général* of the mission, in which an opportunity was afforded him of displaying the whole extent of his useful activity at the same time that he served the government by his mathematical knowledge. In 1705 he was sent to Europe on business of the order, and, landing at Cadiz, surveyed geometrically and scientifically the

environs and the whole coast of Andalusia as far as Gibraltar. He returned to Paris in 1716. His 'Nouveau voyage aux îles de l'Amérique,' which has been translated into several languages, contains an account of the natural history, particularly of some of the smaller and less frequented islands; of their productions; the origin, customs, religion and governments of the inhabitants. He also published a 'Nouvelle relation de l'Afrique occidentale'; 'Voyage en Espagne et Italie'; 'Relation historique de l'Ethiopie occidentale'; 'Mémoires du chevalier d'Arvieu.'

LABBE, lāb, Philippe, French Jesuit: b. Bourges, 10 July 1607; d. Paris, 25 March 1667. He taught philosophy and theology for a time at Bourges, but he was soon called to Paris where he spent his life in writing and research. He was quite a prolific writer, but his most prominent works are 'Sacrosancta concilia ad regiam editionem exacta' (Paris 1662-72, 18 vols., reprinted by Coletus, Venice 1728-32, 23 vols.), Gabriel Cossart edited the last 10 volumes after the author's death; 'Galliae synodorum conciliorumque brevis et accurata historia' (Paris 1646); 'Historica synopsis conciliorum nationalium, provincialium,' etc. (1661). Chronological works of his are 'Concordia chronologica' (Paris 1656); 'Abregé chronologique de l'histoire sacrée et profane' (1663-66). On martyrology he wrote 'Hagiologium Franco-Galliae excerptum ex antiquo martyrologia sanctae obliatae Sancti Laurentii Biturecensis' (1643). On history he wrote 'Michælis Glycæ annales' (1660); 'Mélanges curieux de plusieurs sujets rares' (1650); 'Bibliotheca bibliothecarum' (1664). Consult Michaud, 'Biographie universelle' (Paris 1843-65, Vol. XXII); Backer, 'Bibliothèque des écrivains de la Société de Jésus' (Liege 1869-76, Vol. 11).

LABÉ, la'bā, Louise, French poet: b. Paris, about 1526; d. Lyons, March 1566. Her true name was Charly and her father was a ropemaker, hence, on account of her beauty, she was called «la belle cordière.» Her talent in acquiring foreign languages and her bold and dauntless disposition in her early years created wonder among her companions. While scarcely 16 years of age she took part, dressed as a cavalier, and in the name of Captain Loys, in the siege of Perpignan (1542). She married and devoted herself to poetry and music and her home became the rendezvous of poets, sages and artists; the street on which she lived was called, in 1607, rue de la Belle Cordière. Her poems, sonnets and elegies show Petrarch influence, but have lyric flights and a purity of expression of great rarity. We have of hers also an allegory in prose 'Le Débat de Folie et d'Amour.' The earliest editions of her works (1555 and later) are very rare; the latest appeared in Paris (1887). Consult Gonon, 'Documents historiques sur la vie et les mœurs de Louise Labé' (Lyons 1844); Laur, 'Louise Labé' (Strassburg 1873).

LABÉDOYÈRE, Charles Angélique Hu-chet, shārī ān-zhā-lēk hü-shā lä-bā-dwa-yāt, COMTE DE, French general: b. Paris, 17 April 1786; d. there, 19 Aug. 1815. He entered the army in his 20th year and served with much distinction in Spain, Germany and elsewhere. Napoleon raised him to the rank of general of

division in 1815 and he fought with great courage at Waterloo. After the battle he hurried to Paris and there distinguished himself by his hostility to the Bourbons. On the capitulation of Paris he followed the army behind the Loire, but returning to Paris was taken, tried by court-martial and shot.

LABEL, Union. See **UNION LABEL**.

LABEO, la bā'ō, **Marcus Antistius**, Roman jurist. He was a man of unbending firmness of character, of strong republican sentiment, that turned him against Augustus, and of all-round training. His juridical works compose 400 volumes. Notable among them are found in the pandects of the Justinian 'Corpus Juris.' Seeking to extend the law he became the founder of a special juridical school, which was called the Proculian, after his pupil Proculus. Consult Pernice, 'Marcus Antistius Labeo' (Halle 1873-92); Sohm-Ledlie, 'Institutes of Roman Law' (2d ed., Oxford 1901); Teuffel, 'Geschichte der römischen Literatur' (Vol. II, 6th ed., Leipzig 1910).

LABERIUS, la'ba'ri-ūs, **Decimus**, Roman knight and writer of mimes: b. 106 B.C.; d. 43 B.C. At the age of 60 he was commanded by Caesar to appear on the stage in one of his own mimes, a disgrace for nobility which forfeited all titles, actors being of the lower and slave class. His prologue was filled with touching complaint of the insult and its wording has come down to us. The knightly honors lost by the act were later restored to him. Ribbeck has collected the existing fragments of some 40 mimes of his in 'Comitorum romanorum fragmenta' (3d ed., Leipzig 1898); they show original wit and keen expression.

LABEZARES, Guido DE, gwê-dō dā lā-bā-thā'rēs, Spanish adventurer: b. Bilbao, Spain, 1510; d. Manila, 1580. He began his career in South America, from which he made a voyage to Java and Sumatra, 1542. In 1550 he discovered the Bay Filipina, in Florida, and in the following year with Luna de Arellano visited and renamed the place Bay Santa Maria. He entered with Legaspi upon the project of conquering and converting the Philippine Islands. His success was complete in the matter of conquest, and in 1574 he was appointed governor-general of Manila. By means of new fortifications he so strengthened the place against the Chinese corsairs and the Dutch pirates that these were driven from the adjacent islands. In 1575 he took the position of lieutenant-governor, under a new governor-general from Spain and kept his position until his death.

LABIATAE. See **MENTHACEÆ**.

LABICHE, Eugène Marin, è-zhān mā-rān lā-hēsh, French dramatist: b. Paris, 5 May 1815; d. there, 23 Jan. 1888. He wrote, chiefly in collaboration with other authors, upward of 100 plays, many of them very successful. It was the qualities that he brought to the collaboration that made them a success. His long series included a few real comedies of character and manners. His farces and vaudevilles are distinguished by extravagant plots, crisp and sparkling dialogue which is at times a little broad, by the absence of the love element and admirable stage technique, and they form capi-

tal characterizations of the bourgeoisie of his time. In 1880 he was elected to the Academy and after that date ceased to write for the stage. His dramatic works were collected in 10 volumes (1878-79) and met with a notable and, for the author, an unexpected success. Among the best of them may be mentioned 'Frisette' (1846), the original of the famous farce, 'Box and Cox'; 'The Italian Straw Hat' (1857); 'Le Voyage de M. Perrichon' (1860), a delightful picture of middle-class vanity; 'Moi' (1864). Consult Matthews, 'French Dramatists' (1901).

LABLACHE, Luigi, loo-ē'jē lā-blāsh', operatic singer: b. Naples, Italy, 6 Dec. 1794; d. there, 23 Jan. 1858. He studied at the local Conservatorio della Pietà della Turchini under the guidance of Valesi and made his début as a bass singer, *buffo Napoletano*, in Fioravanti's 'Molinara.' Later he enlarged his repertoire by singing in grand opera, to which his voice, which was one of wonderful range and volume, was admirably adapted and appeared as Mercadente in 'Elisa and Claudio.' His reputation soon extended over Italy. In his 20th year, when the triumph of Rossini was at its height, he stood forth as the greatest interpreter of that master, and reached the summit of his fame. A medal was struck off in his honor at Vienna in 1825. For the next 17 years he annually appeared in Italian opera in London, Paris and Saint Petersburg. He was the singing-master of Queen Victoria. He was equally admirable in comic and serious operas and the school of music which he opened in Paris had considerable success in handing on the traditions of his style. Don Giovanni and Leporello were his greatest parts.

LABOR. Definition.—Labor may be defined as the physical or mental effort of human beings for the attainment of some object other than the pleasure of the effort itself. Simple as this definition is there is scarcely a word in it but what has been the subject of discussion. The popular use of the word labor restricts it to those who engage in manual toil, but this is of course too narrow. Any scientific definition must include mental effort. In modern industry brains are needed as well as muscle. Men must organize the productive forces and direct their employment along chosen lines. Upon their ability quite as much as upon the skill and strength of the manual workers, and indeed to an even greater degree, depends the success of modern enterprise. To-day this concept is fully recognized and not even the most extreme socialist would deny the productive character of mental effort.

Labor is generally limited in popular usage to that of human beings but not all economists have so defined it. Adam Smith spoke of "labouring cattle," and said more than once that "nature labours along with man." J. R. McCulloch, who always exaggerated or distorted any half-truth of his intellectual father, Adam Smith, went so far as to say that no distinction should be made between the operations of domestic animals, of machinery, of nature and of man. Labor, he said, is "any sort of action or co-operation, whether performed by man, the lower animals, machinery, or natural agents, that tends to bring about any desirable result." Such a definition is, however, confusing rather

than helpful. To-day practically all economists restrict the term labor to that of human beings. Labor means human labor.

More difficult of restriction within the ring-fence of a definition is the next concept. Some writers have denied the term labor to any exertions which yield pleasure or are undertaken for the sake of the pleasure accompanying them. Painful effort only is labor. Thus W. S. Jevons wrote, "Labor, I should say, is any painful exertion of mind or body undergone partly or wholly with a view to future good." And yet even Jevons pointed out that most forms of labor, after the initial irksomeness had been overcome, yielded distinct pleasure to the worker, a principle which the French socialist Fournier had earlier made the basis of his scheme for the organization of labor. It is impossible thus to limit the term, for it would exclude some of the highest forms of creative art or literature or even handicraft and confine it only to distasteful or painful occupations. Indeed the same kind of exertion might at one time be called labor and at another time be denied that name. The whole psychology of labor is moreover involved in this limitation of the idea. Labor is regarded as a curse. But the purpose of economic progress and of human invention is, or should be, to lighten the burden upon labor, to associate with the performance of necessary tasks a pleasure and pride in workmanship. In its highest aspect labor should be regarded as a privilege rather than a curse.

The final notion involved in this definition is that the labor is performed for the sake of some ulterior object or some useful purpose. Quite aside from the question of whether pleasurable effort is entitled to the name of labor, it is contended that it must be productive. The distinction was early made between productive and unproductive labor. The Physiocrats, for instance, insisted that only the work of agriculture was productive, the labors of manufacturers, merchants and others being sterile. Even Adam Smith thought that the work of servants was unproductive. The modern conception, however, is that any effort which satisfies a want or creates a utility is productive—that of the actor, the fireman or the judge, as well as that of the farmer, the miner, the cotton-spinner or the locomotive engineer. Effort directed toward the rendering of some intangible or transient pleasure is held to be productive as well as that engaged in extractive industry or in fashioning some durable object. In no case does man create anything; he can never do more than change the form or the place of material things. It is, therefore, as impossible to draw a line of distinction between the labor of those engaged in raising grain and those employed in serving bread at the table as it is to make a distinction between manual and mental effort.

Free and Slave Labor.—Thus far only free labor has been considered, but historically probably more of the work of the world has been performed by unfree labor than by free. Slavery has existed as far back as historical records go into the dim past. Indeed it has been asserted, rather paradoxically, that the institution of human slavery marked the greatest step forward that had yet been made in human progress. From an ethical standpoint slavery

was certainly an improvement over cannibalism and from an economic standpoint it marked great advance because now for the first time there was provided a fund of labor that could be directed to steady and arduous toil. Until this time man had lived by hunting and fishing primarily; but now settled agriculture became possible, permanent homes were established, cattle domesticated and some accumulation of property began. Primitive man did not work willingly and the compulsion of slavery furnished the training school in which the human race painfully and slowly learned the lesson of labor.

The question has been raised and much debated as to whether the course of human progress has been from a state of original freedom and equality to one of inequality and bondage or the reverse. The view was formerly widely held that the original tribal organization early gave place to a closer union in the village community or mark. Freedom, equality of rank and possessions, and in the case of the mark communal ownership and cultivation of the land characterized these early communities. As a result of conquest and other forces this original state of freedom gave way to one of inequality, both political and economic, which has persisted to this day. Modern democracy and socialism are simply efforts to restore the original and natural heritage of mankind. About 1880 however another school developed in England and France especially, which denied the accuracy of the historical data upon which the mark theory had been built up, and gave a different explanation of the existing economic constitution of society and the position of labor. These writers denied that early societies had enjoyed freedom and communal ownership of the land, but insisted that as far back as history can be traced there had always existed a system of primitive serfdom and private property. The evolution of human progress has therefore been from a condition of slavery and inequality to one of increasing freedom and equality of opportunity and possessions. Labor has progressed from bondage to freedom and is ever moving further in the same direction.

Perhaps the best evidence of the growing dignity and importance, as well as the well-being of labor, is the esteem in which it has been held by economists. In this respect there has been steady progress. By the Greeks and Romans, if we may accept as typical the utterances of their leading philosophers, labor was held in low esteem. Artisans belonged to the lowest caste, and labor was held to be degrading. Slavery was generally practised and of course did not help to elevate the status of the free laborer. The later Roman writers, however, condemned this institution on economic grounds. The spread of Christianity led also to moral condemnation, and during the Middle Ages slavery was generally modified into serfdom, according to which the serf was bound to the soil but was personally free. Although the Church taught the equality and brotherhood of man, these doctrines did not ameliorate his condition during this period. Men's chief intellectual interests were theological rather than economic, war absorbed the energies of the ruling classes, and the primitive methods of agriculture, manufactures and transportation as well as insecurity of life and

property prevented the working classes from making any economic advance.

Economic Views.—The Renaissance and the discovery of the New World made far-reaching changes in economic institutions and thought which were reflected in the conceptions of labor. By the Mercantilists, labor was assigned a position of considerable importance; according to Locke (1690) labor is the almost exclusive source of value, for, he wrote, «it is labour indeed that puts the difference of value on everything.» But the Mercantilists after all emphasized trade and money rather than labor. The Physiocrats introduced the distinction between productive and unproductive labor; according to them the only productive labor was that which added something material to the world's stock of goods. They therefore confined the term to agricultural laborers and the extractive industries; merchants and manufacturers were unproductive or sterile. Emphasis was laid by them therefore more upon the direction of labor than upon its well-being. Land and the bounty of nature was the real center of the Physiocratic system.

Adam Smith placed labor in the very arch of his economic philosophy; his book on *The Wealth of Nations* (q.v.) begins with a discussion of labor as the source of the annual wealth of a nation, and the first chapter describes the division of labor as a means of increasing production. The opening sentence of this book is, «The annual labour of every nation is the fund which originally supplies it with all the necessities and conveniences of life.» Labor is both the cause of value and its measure. In spite of the high position thus assigned labor in Smith's economic system, the practical results in the hands of his followers were bad. He had insisted upon the need of greater freedom of enterprise and of contract and this doctrine was erected into the principle of *laissez-faire* by the classical school. Competition was given full sway and all restrictive barriers were swept away. This meant the exploitation and degradation of labor. Ricardo and Malthus (q.v.) register in their writings the hopeless attitude of economists as to the impossibility of improving the condition of labor, view which persists even in John Stuart Mill (q.v.).

A reaction against this position soon set in. The Socialists insisted upon the rights of labor and the injustice of existing methods of distribution. The changes wrought by the Industrial Revolution brought many industrial readjustments and serious economic ills such as poverty, unemployment and crises. Increasing attention began to be given to the subject of distribution instead of production or exchange. Social reformers interested themselves in the practical work of abolishing specific abuses. The labor movement became too important to ignore, and not only has it secured an increasing amount of space in recent economic literature, but it has been treated with greater sympathy and understanding. In many of our colleges and universities courses in labor problems are given, and an increasing amount of study is being devoted to the subject. See **SOCIAL REFORM PROGRAMS; SOCIALISM.**

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LABOR, American Federation of. See AMERICAN FEDERATION OF LABOR.

LABOR, Department of. A government department of the United States, established by act of Congress March 4, 1913 "to foster, promote, and develop the welfare of the wage earners of the United States, to improve their working conditions and to advance their opportunities for profitable employment." Originally a part of the Department of the Interior, it was later transferred to the Department of Commerce and Labor before becoming a separate department headed by a Cabinet member. The department consists of the following operating bureaus: Bureau of Apprenticeship, which formulates and promotes the extension of labor standards necessary to safeguard the welfare of apprentices; Bureau of Labor Standards which develops desirable standards in industrial practice, labor law administration, state labor legislation, industrial safety standards and performs the functions conferred upon the secretary of labor regarding the filing of organizational and financial information by unions; Bureau of Labor Statistics which collects, analyzes and publishes information relating to wholesale prices and living costs, employment, working hours, wages and payrolls, productivity, and allied subjects involving activities of wage earners; Bureau of Veterans Reemployment Rights, which assists former members of the armed forces and of the Merchant Marine in the exercise of their reemployment rights; Women's Bureau, which encourages standards and policies to promote the welfare of wage earning women; Wage and Hour and Public Contracts Divisions, which are charged with administering and enforcing the minimum wage and maximum hours standards provided by the Fair Labor Standards Act of 1938 and administering and enforcing the provisions of the Walsh-Healey Public Contracts Act. The following offices are directly responsible to the Secretary of Labor: Office of the Solicitor (the Solicitor serves as legal adviser to the Secretary of Labor and other department officials, handles all the Department's legal proceedings, administers the Copeland Anti-Kickback Act, establishes prevailing wage rates for laborers and mechanics employed in the performance of construction projects for the Federal Government under the Davis-Bacon Act); Office of International Labor Affairs is responsible, under the general supervision of the under secretary of labor, for the supervision, direction, policy formulation and coordination of the international activities of the Department and of its bureaus; Office of Information, under the Director of Information, is responsible for the dissemination of information concerning the activities of the Department and its constituent bureaus, offices and agencies.

MAURICE J. TOBIN,
The Secretary of Labor

LABOR BUREAUS. Nearly every state in the Union has a labor bureau, or department of labor, the oldest being that of Massachu-

setts, organized in 1869. Several of the state bureaus, particularly those of New York and Connecticut, maintain free employment agencies. These state bureaus have been kept remarkably free from partisan politics, and they have been decidedly successful in the settling of labor disputes and in preventing strikes and lockouts. The chief functions delegated to be performed by the state bureaus are assistance in bettering the condition of toilers, investigating complaints of ill-treatment, and grievances, to furnish information as a basis for enlightened legislation, to keep a record of the labor supply and labor condition in the state and to inform the general public of the results of its work. In some states the administration of the labor laws was committed to the bureaus, as also administering employment offices, compensation laws, etc. These organizations proved so successful that European nations soon followed the American example. In 1891 France organized a bureau of labor and in 1892 Germany followed with a labor commission. In 1893 a labor department under the direction of a commission for labor was instituted in England. Austria, Italy, Sweden, New Zealand, New South Wales, and Canada have since established similar bureaus. Consult Wright, *The Workings of the Department of Labor*, and "The Value of Influence of Labor Statistics," in *Monographs on Social Economics* (Washington 1901); *American Year Book* (annual); *American Labor Legislation Review* (1911, I, No. 2, 123-134; No. 3, 59-68; No. 4, 61-104).

LABOR CHURCH, a movement started in England to bring religious work into the labor movement. John Trevor was the founder (1891), the first Labor Church service opening in Charlton Town Hall, Manchester. The growth of the movement was such that, at a conference held in 1893, the Labor Church Union was organized with 10 churches represented, and by 1894 there were 24 labor churches in England and Scotland. Five principles were adopted at the inauguration declaring religion part of the labor movement, that it is no class movement or class religion, but nonsectarian. In 1903 a restatement of principles was drawn up embodying the conditions of the former one and declaring the labor movement, besides its religious activity, includes improvement of social conditions, development of personal character, both essential to "emancipation from moral and social bondage," and therefore insists on the study of the economic and moral forces of society. Over 30 labor churches were eventually established, but since 1907 the movement apparently has lost vitality.

LABOR CONGRESS, an assemblage, either national or international, of representatives of organized labor. Various national labor congresses are held in several countries, particularly in England, where annual conventions have been held since 1868. The first attempt to form an international organization of workers was made by a group of Continental exiles at a conference held in London in 1847, in which Karl Marx took part. The Communist League that was formed issued Marx' and Engel's famous manifesto just before the revolution of 1848, but the organization disappeared in the succeeding reaction. The first international

labor congress was organized by the International Workingmen's Association—the «First» International—which was established in London in 1864. Its first congress was held at Geneva, Switzerland, in 1866, about 60 delegates being present from England, France, Germany, Holland, and Switzerland. The results of this meeting were the condemnation of the industrial employment of women, the advocating of technical education, and the organization of mutual credit associations. At the congress of 1869, held at Basel, Switzerland, labor representatives were in attendance from Russia, Austria, Germany, France, England, Spain, Italy, and Switzerland. This assembly by a vote of 54 to 4 declared that landed property should be abolished. At the congress at The Hague in 1872 the anarchists, led by Bakunin set up an independent international, which continued a stormy existence until 1879. The First International, after holding two more congresses (the last in Philadelphia in 1876), ceased to be an effective force.

In 1889 the Second (Socialist) International was launched. Two international socialist labor congresses were held at Paris at the same time one, the Marxist, by 400 delegates, and the other, the Possibilist, by 600 delegates. In 1891 a socialist-labor congress was held at Brussels, at which 400 delegates were present from nearly every country in the world, including Canada and the United States. Among the topics discussed were the eight-hour day, militarism, universal suffrage and legislative protection of labor. At the congress of 1893 at Zurich, Switzerland, 385 delegates were present, and admission was denied to all avowed anarchists. The congress, now assuming definite organization as the Second International, met in London in 1896 and arranged to meet every four years thereafter. The anarchists were again denied admission, and resolutions were adopted opposing standing armies, advocating the nationalization of land and the socialization of industry.

The next congress was held in Paris in 1900, when the assembly discussed the laws regulating strikes and boycotts and favored the abolition of the capitalist class. Resolutions were passed favoring a fixed minimum wage and the nationalization of mines. Subsequent meetings were held at Amsterdam (1904), Stuttgart (1907), Copenhagen (1910) and at Basel in 1912. Efforts to hold congresses during the First World War proved abortive. The Second International was revived in 1920 at Vienna and set up on a reorganized basis at Hamburg in 1923, holding congresses thereafter at intervals of about four years until the outbreak of Second World War.

Meanwhile the Third (Communist) International—the Comintern—had been organized at Moscow in 1919, and held seven congresses until its dissolution in May 1943.

The International Labor Organization, which was established in 1919, at the Paris Peace Conference, and of which the United States is a member, held its first session in Washington in 1919 and its twenty-sixth in Philadelphia 1944.

Plans for a World Labor Conference, sponsored by the British Trades Union Congress and scheduled to meet in London in June 1944 were suspended in May, because of the Allied inva-

sion of France on June 6. The World Trade Union Congress (WTUC) meeting in London in February 1945 discussed establishment of a new organization to replace the International Federation of Trade Unions; at a subsequent WTUC meeting in Paris, announcement was made, Oct. 3, 1945, of the founding of the World Federation of Trade Unions (WFTU). The latter held executive meetings in 1946 in Paris, Washington, and Moscow. See also INTERNATIONAL or INTERNATIONALE; INTERNATIONAL LABOUR ORGANIZATION; SOCIALISM; LABOR UNIONS.

LABOR DAY, in the United States, the first Monday in September, a legal holiday in all the states and District of Columbia, Puerto Rico, Hawaii, and Alaska. The celebration of this day was inaugurated by the Knights of Labor (q.v.), who in 1882 held a parade in New York, and again in 1884, when a resolution by George R. Lloyd, one of the Knights of Labor, was passed, recommending that parades be held on Labor Day. According to an article entitled "Labor Day" in Bulletin No. 29 of the United States Department of Labor, published July 1900, Oregon was the first state to legislate for general observance of Labor Day as a legal holiday. This law, enacted Feb. 21, 1887, specified the first Saturday in June as Labor Day; but in 1893 the day of observance was changed to the first Monday in September. Other states which passed similar legislation in 1887 were: Colorado on March 15; New Jersey, April 8; New York, May 6; and Massachusetts, May 11. All these states set the first Monday in September as the holiday. In Europe the celebration of the first of May as Labor Day commenced in 1890.

LABOR DEPARTMENTS, Foreign. The development of early labor legislation in all countries soon pointed out the fact that labor laws are useless unless properly enforced by special authorities. Accordingly most countries sooner or later created one or more departments to deal with the ever-increasing number of labor laws. The functions of these departments is first of all to administer all existing labor laws and then to conduct investigations that will lay foundations for future legislation. Under their administrative functions labor departments appoint inspectors to enforce workshop regulations, regulate social insurance laws, conduct labor exchanges to help unemployed and serve as, or create, boards to settle industrial disputes or fix wages and hours of labor. Under their functions as investigators labor departments conduct research, gather statistical data, issue reports and often draft laws. In the larger European countries the departments are under the guidance of ministers of labor, while in smaller countries they are attached to other ministries.

In England, factory inspectors to enforce workshop regulations were for the first time provided for under the Factory Act of 1833. They were placed under the supervision of the secretary of state for home affairs. At present the Home Office has a factory inspection department supervised by an undersecretary. Other labor laws before World War I were administered by the Labor Department of the Board of Trade, established in 1893. The department administered the Labor Exchanges Act of 1909, the Trade Boards Act of 1909, and the National Unemployment Insurance Acts of 1911

and 1916. The Board of Trade also issued a monthly paper, and annual and special reports on wages, hours and labor in other countries. During World War I its powers and authorities were transferred to a Ministry of Labor. Health insurance is regulated by boards of insurance commissioners.

In Germany, before World War II, the enforcement of the labor law was mainly left to the individual states. Each state had a labor or inspection bureau that enforced workshop regulations with the help of the police authorities. Central supervision was very slight. In Prussia the factory inspection department was under the Ministry of Commerce and Industry. At the head of the insurance system was the Imperial Insurance Office assisted by district and local insurance offices. The above departments also conducted investigations and research work.

In France a Bureau of Inspection of Labor was for the first time established in 1841. In 1891 the Superior Council of Labor, representing employers, employees and the government, was founded to investigate labor conditions and act as adviser to the government in labor problems. The Inspection Service, like the Superior Council, was a part of the Ministry of Labor, established in 1906, at the head of which was a member of the Cabinet. Accident insurance was regulated by a special bureau and old-age pensions were under the supervision of a Superior Council in the Ministry of Labor.

Austrian labor laws were administered by the Ministry of Commerce and at the head of the inspection service was a central industrial inspector. In Holland a Bureau of Labor was established in the Department of Public Works in 1916 to institute unemployment insurance and supervise labor exchanges. In Belgium there was, before the war, a Ministry of Industry and Labor, under which there was a Labor Office. The latter was organized in 1895. It administered all labor laws, investigated labor problems, inspected factories and supervised insurance. In Italy a Labor Department was established in 1902, in Switzerland in 1886, in Denmark in 1859, Sweden in 1902 and in Spain in 1903.

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LABOR LEGISLATION. The term labor legislation today covers a broad group of laws embodying governmental policies on the economic and social status of workers. In most industrial countries labor legislation began during the early stages of the factory system as an attempt to regulate child labor. These first laws were little more than an expression of policy against the exploitation of very young children. The comprehensive body of laws now in effect includes not only corrective and protective measures, but also legislation establishing certain basic rights of labor.

The first step was the enactment of laws to protect women and children from excessive hours and to safeguard all workers against hazardous working conditions. These laws achieved results only as they were gradually reinforced by factory inspection with police powers.

The next step was the recognition of labor's right to promote its own safety and welfare through mutual association. The resulting laws include measures guaranteeing labor's right to organize, to strike, and to bargain collectively;

and extending the help of government in promoting industrial peace and fair treatment through mediation, conciliation, and arbitration. (See also LABOR UNIONS.)

Other types of legislation to protect workers include insurance against occupational injuries and diseases, unemployment insurance, minimum wages and overtime after certain basic hours of work, and regulation of private employment agencies. The latest trend is to provide nonoccupational sickness insurance and protection against discrimination in employment on the basis of race, religion, or ancestry.

Labor Legislation, United States.—Labor legislation existed in colonial and early republican America. In direct contrast to its purpose today, it was then directed to restrict and control workers. For example, colonial statutes prohibited the payment of wages beyond a specified maximum instead of providing a floor for wages. And the early laws branded as conspiracy the organization of workers for promoting and protecting their own interests. But the maximum wage laws could not operate effectively in a new country where labor was desperately needed, and the doctrine of conspiracy proved foreign to the American concept of the dignity of labor. So labor legislation became legislation for labor, not against it. As in other countries, early efforts in behalf of labor sought first to control working hours and age limits of children employed in textile mills.

Under the United States system of government, powers not specifically granted to the federal government by the Constitution are reserved to the states. Hence the individual states enacted practically all of the early labor legislation, with the result that there was a great variation in laws from state to state.

Federal labor legislation is based on the power of Congress to control interstate commerce specifically granted by the Constitution. Most of the early federal labor laws dealt with railroads and their employees without extending into other industries. Gradually, a broadening concept of interstate commerce led to the enactment of more far-reaching federal legislation.

The years since 1932 have witnessed a great advance in the field of labor and social legislation. In the brief period of its operation, the National Industrial Recovery Act of 1933 brought, for the first time on a national scale, a shorter work week, minimum wage scales, and a substantial improvement in safety and health measures. This law, and the National Labor Relations Act, which followed, established government recognition of labor's right to organize and bargain collectively with employers. Developments since 1933 have been influenced by the national conferences on labor legislation. These conferences are called each year by the secretary of the United States Department of Labor. They are composed of governors' representatives (usually labor commissioners and representatives of organized labor) from the various states, the territories, and the District of Columbia. These conferences have established desirable labor standards for most types of labor legislation.

Child Labor.—Every state now has a child-labor law, but they are not equally effective. In general, they set a minimum age of 14 or 16 for employment, with a growing trend toward the establishment of a 16-year minimum age in factories and in all occupations during school hours.

They generally fix a higher minimum age (usually 18) for employment in hazardous occupations; require employers to obtain employer or age certificates for each young worker the hire under 16 or under 18; limit maximum hours of work, usually to an 8-hour day and a 40-hour or 48-hour week; and prohibit night work for 11 or 12 hours a night for children under 16, and for 8 night hours for those 16 and 17.

Closely tied in with child-labor laws are school-attendance laws. The laws of all of the states, the territories, and the District of Columbia require children generally to go to school at least to the age of 16, ten of the laws requiring attendance to 17 or 18 years of age. However, most of these laws have exemptions permitting children under 16 to leave school for certain reasons, such as upon completion of a specified grade or because of poverty or distance of residence from school. Most states require attendance for the full term, usually 9 or 10 months.

The federal government controls employment of children mainly through the child-labor provisions of the Fair Labor Standards Act which sets minimum ages for the employment of minor in interstate or foreign commerce, or in the production of goods for shipment in such commerce. Two other federal acts also contain child-labor provisions, the Walsh-Healey Public Contract Act that sets minimum ages for work under government contracts, and the Sugar Act of 1948 under which certain standards are established for the work of children in cultivating and harvesting sugar beets or sugar cane.

See also separate article on CHILD LABOR.

Wages and Hours.—Although the National Industrial Recovery Act was declared unconstitutional in 1933, strong sentiment remained for federal regulation of wages and hours. In 1937 Congress passed the Fair Labor Standards Act applying to workers engaged in interstate or foreign commerce or in the production of goods for such commerce. This act, as amended effective Jan. 25, 1950, provides for a minimum wage of 75 cents an hour, and time and one half for hours worked in excess of 40 a week.

The Federal Public Contracts Act, generally known as the Walsh-Healey Act, requires that employers holding government contracts in excess of \$10,000 must pay the prevailing minimum wage as determined by the secretary of labor must pay time and one half after 8 hours a day or 40 hours a week, and may not employ boys under 16 and girls under 18. Another federal act, the Davis-Bacon Act, requires payment of prevailing wage rates to laborers and mechanics on contracts in excess of \$2,000 for the construction, alteration or repair of public buildings or public works.

Both federal and state laws regulate the wages and hours of persons employed on public works.

Practically all the states have enacted legislation limiting the hours of labor and regulating the working conditions of women and children ("Working conditions" includes sanitary and rest facilities, meal and rest periods, and standard of employment in occupations especially hazardous for women and children.) All but five states have some regulation of the daily hours of work of women and almost all of these also have weekly limitations. Maximum hours range from an 8-hour day in specified industries in many states to a 10-hour day allowed by a few states in one or more industries. In most cases, these

laws do not permit overtime, except in cases of emergency. Some states place some limitations on night work for women and almost every state places restrictions on night work for minors, at least those under 16.

Hours regulation under state laws for men has for the most part been limited to hazardous industries. Many of the states have laws requiring one day of rest in seven, and these usually apply to men as well as women.

Twenty-six states, the three territories and District of Columbia, now have minimum wage laws applying to women and minors, and seven of these laws (Connecticut, Massachusetts, New Hampshire, New York, Rhode Island, Hawaii, and Puerto Rico) apply also to men. Most of these laws provide for tripartite boards to issue wage orders by industry; a few also set a statutory minimum wage rate.

All but two of the states, Delaware and Florida, and the District of Columbia, have some legislation covering the payment of wages. Wage payment laws set certain requirements as to frequency of payment, medium of payment, payment to workers separated from the payroll, statements to workers and other records. About one fourth of the laws include the very important provision authorizing the state labor department to take assignments of wage claims for the collection of wages for the employee. Under these laws, millions of dollars in wages due have been collected for employees. Few of the state laws give complete protection to workers by covering all these important subjects adequately. Some states have wide coverage of workers but limit the scope of the laws. Agricultural and domestic workers usually are not covered by wage payment laws.

Labor Relations.—Unlike other social legislation, which was first enacted by the states, labor-relations legislation had its beginning by action of the federal government. The principle of collective bargaining underlies all recent federal legislation on labor relations. The National Industrial Recovery Act of 1933 (held unconstitutional in 1935) recognized the right of employees to organize and bargain collectively through representatives of their own selection. Enacted in 1935, the National Labor Relations Act continued and reinforced this policy by provisions designed to guarantee these rights in fact as well as in theory. To this end it prohibited certain employer practices which hinder the organization of labor, set up election machinery to settle controversies concerning the representation of employees, and created the National Labor Relations Board, of three members, to carry out these provisions.

In 1947 this act was amended and re-enacted the Labor Management Relations Act, commonly called the Taft-Hartley Act. As re-enacted it continues to guarantee the right of collective bargaining, it retains the list of unfair labor practices of employers, and it adds unfair labor practices of employees. It also makes certain changes in the administrative provisions by enlarging the board from 3 to 5 members and by giving final authority to the general counsel, instead of the board, for the investigation and prosecution of unfair labor charges.

For many years the issuance of injunctions by various federal courts impeded labor's efforts to organize and bargain collectively and limited its right to strike. In 1932 Congress passed the

Norris-LaGuardia Act, that defines and limits the powers of the federal court to issue injunctions in labor disputes. Under this act, a federal court may issue a temporary or permanent injunction in cases involving or growing out of a labor dispute only after hearing the testimony of witnesses in open court with opportunity for cross-examination. Such hearings shall be held only after personal notice to all known persons involved. The court must also find among other facts, that irreparable property damage will follow if the injunction is not issued, and that greater injury will result to the complainant from denying the injunction than to the defendant from granting it.

As modified by the Taft-Hartley Act, temporary or permanent injunctions may be issued by federal courts under certain circumstances without regard to these conditions.

Under the Taft-Hartley Act, a Federal Mediation and Conciliation Service was established, independent of the Department of Labor, to assist labor and management in arriving at peaceful settlements of labor disputes. Generally, the service attempts to mediate and conciliate if the dispute threatens a substantial interruption of interstate commerce. When a dispute would have only a minor effect upon interstate commerce and a state or local agency is available, the federal service usually does not offer its mediation and conciliation facilities.

The service may intervene in labor disputes at the request of one or more of the parties to the dispute or on its own motion. The Labor Management Relations Act requires employers and unions who wish to modify or terminate existing collective bargaining agreements to serve a notice on each other 60 days before the effective date of such changes. It also requires such parties, if the dispute is not settled within 30 days, to file a notice with the federal service and any state mediation or conciliation agency which might have jurisdiction.

It is the policy of the service to promote collective bargaining and encourage the parties to settle industrial disputes by themselves. The service exists to assist parties who have reached a deadlock in bargaining relations to settle their differences and to reach their own agreements. It has no coercive or compulsory powers.

The Railway Labor Act, passed in 1926, and amended in 1934, 1936, and 1940 governs the labor relations of railroads and airlines and their employees. The act makes it the mutual duty of carriers and employees to make and maintain agreements; guarantees, and provides for the exercise of labor's collective bargaining rights; and prescribes methods for the settlement of various types of disputes. The act applies to all railroads, express companies, and sleeping car companies engaged in interstate commerce and their subsidiaries, and to airlines engaged in interstate and foreign commerce and transportation of mail.

A number of states have passed acts similar to the federal Wagner, Taft-Hartley, or Norris-LaGuardia Act.

Eleven states and two territories have industrial relations acts up to the present time. The first five of these were passed in 1937 and were modelled on the Wagner Act. Amendments to some of these and later acts passed in some other states, contained provisions designed to control not only the practices of employers but of labor

organizations as well. On the other hand, the original trend was followed by Rhode Island in 1941 and Connecticut in 1945. Thus at present the state labor relations acts fall into two classifications. Those of Connecticut, Massachusetts, New York, and Rhode Island are modelled on the original Wagner Act; and those of the second group, Colorado, Kansas, Michigan, Minnesota, Pennsylvania, Utah, Wisconsin, Hawaii, and Puerto Rico, contain union-restrictive clauses similar to those incorporated in the Taft-Hartley Act of 1947.

In addition to the labor relations acts, other state laws affecting labor relations are found in most of the states.

About half of the states have "little Norris-LaGuardia" acts. Other acts provide for mediation and voluntary arbitration for the adjustment of labor disputes. In some states permanent boards are created for this purpose, while in others adjustment is carried on by the officer or agency charged with the general administration of labor laws. Other state laws include a number of union restrictive provisions, such as regulation or prohibition of picketing, boycotting, and blacklisting; regulation of industrial relations in public utilities; or supervision of certain union affairs. A number of states have also passed legislation forbidding anti-union contracts.

While some union-restrictive acts were passed prior to 1947, the great bulk of such laws were passed in that year. This trend was somewhat reversed in the last three years, when several of the union-restrictive acts were repealed or modified.

Social Security.—In order to assure workers an income during their old age, as well as to provide benefits for the unemployed and to take care of widows and orphans, Congress in 1935 enacted the Federal Social Security Act. Amendments in 1939 and 1950 considerably liberalized the law and increased the benefits. The act provides for grants to states for noncontributory old-age assistance plans and creates a federal old-age annuity system, financed by contributions by both employers and employees. It also provides for grants to states for the administration of approved unemployment compensation laws. The act extends assistance to needy and dependent children, grants to states for maternal and child health services, services for crippled children, child welfare services, vocational rehabilitation of the partially disabled, public health services, and aid to the blind.

Under the impetus of the Social Security Act, every state has adopted an unemployment insurance law. These laws follow a general pattern, although many provisions differ considerably from state to state. In every state, regular unemployment benefits are paid to unemployed workers who qualify under the state law. See also separate article SOCIAL SECURITY.

The Bureau of Employment Security of the United States Department of Labor carries out the federal government's responsibilities in connection with the unemployment insurance program, and, in addition, the public employment service program. The United States Employment Service provides national leadership and coordination to a system of public employment offices operated by state and territorial agencies affiliated with the bureau. These 1,800 full-time local offices and 2,700 part-time offices are the medium through which the public employment

service system seeks to bring about the best possible organization of the labor market; its principal function in accomplishing this is helping the worker to find suitable employment and the employer to obtain qualified workers.

Service to Workers and Employers.—In addition to providing the basic placement facilities for the matching of workers and jobs, the public employment service provides counseling service to persons having employment problems and applies specialized techniques in finding work for young people, veterans, older workers, and the physically handicapped. The United States Employment Service also participates with the state employment services in the special activities involved in placing agricultural workers and in operating a system for clearing workers across state lines from areas of labor supply to areas of labor demand.

The Bureau of Veterans' Reemployment Rights of the United States Department of Labor assists former members of the armed forces in the exercise of their reemployment rights as provided by Section 8 of the Selective Training and Service Act of 1940, as amended, and related reemployment statutes and Section 9 of the Selective Service Act of 1948.

Information to ex-servicemen, employer, labor and veteran organizations, and others interested in the reemployment provisions of the various acts is provided by local offices of the state employment services. Local offices of the employment service refer ex-servicemen to Volunteer Reemployment Committeemen located in their communities. Assistance to ex-servicemen and employers on reemployment problems is provided by Volunteer Reemployment Rights Committeemen who serve under the supervision of the bureau's field representatives in resolving controversies with employers over reemployment rights by negotiation and voluntary settlement.

A separate federal law provides retirement annuities for aged and disabled railroad employees. Congress has also provided for a comprehensive system of unemployment insurance for employees of carriers engaged in interstate commerce, designed to meet the special needs of the railroad industry.

The social security system in the United States, unlike many European systems, makes no provision for workers unable to work because of sickness. Rhode Island, however, passed a Cash Sickness Compensation Act in 1947. Three other states have followed the lead of Rhode Island in providing benefits of this type. California, New Jersey, and New York. The New York law is administered by the Workmen's Compensation Board, the three others by the Unemployment Insurance Administration.

Workmen's Compensation.—All of the states have workmen's compensation laws. In addition federal laws cover government employees, longshoremen and harbor workers, and employees in the District of Columbia. The main object of this legislation is the payment of benefits to injured employees or to the dependents of those killed in industry, regardless of who was at fault in the accident.

Although the results sought are much the same, there is great variety in the details of the several laws. Some apply only to employees engaged in hazardous employments; others apply only where employees are not less than a specified number. The amounts of benefits vary within

vide range. In some states employers are required to operate under the compensation set, while in others they may refuse to do so if they prefer to risk an injured worker's suit for damages. In 25 states of the United States, Alaska, Hawaii, and the District of Columbia, coverage is provided for all occupational diseases as well. See separate article WORKMEN'S COMPENSATION.

Safety and Health.—Most of the states have laws to protect the safety and health of workers. In the last few years many states have strengthened their safety laws or enacted new ones. This was no doubt due, to a considerable degree, to the President's Conference on Industrial Safety, held in Washington, D.C. in 1949, 1950, and 1951. At the first conference, a thousand leaders of business, labor, government, insurance companies, educational groups, and private safety organizations from all over the country responded to the president's call, and accepted his challenge to reduce job accidents by 50 per cent by the end of 1952. State safety laws usually place responsibility for providing reasonably safe work places for workers on the employer, and authorize the labor department of the state to enforce the safety regulations. Some of the laws establish standards in detail. The present tendency in legislation is to indicate standards and grant large discretionary powers to the responsible administrative agency for achieving those standards. About three fourths of the states, the department of labor or other administrative agency is authorized to issue safety codes and regulations to enforce them.

Private Employment Agencies.—Another line of legislation, the purpose of which is to protect the worker, is the regulation of private employment agencies. Such laws were first enacted to eliminate various undesirable practices formerly prevalent in the placement of persons, such as misrepresentation of jobs or the charging of exorbitant fees. At present 42 states and the District of Columbia have laws regulating the operation of such agencies. While their provisions vary considerably, these acts usually require the agency to obtain an annual license, to post a bond, and to refrain from performing certain undesirable practices.

Industrial Home Work.—The control of industrial work in private homes is a further method of protecting workers against undesirable working conditions. Nine states and Puerto Rico now have laws under which industrial home work may ultimately be prohibited. Certain limited home work is permitted under these acts for persons who cannot leave their homes. A number of states have some regulation of home work, and the Federal Fair Labor Standards and Walsh-Healey Acts contain provisions affecting this type of work. The Walsh-Healey Act prohibits such work in government contracts of more than \$10,000. Under the Fair Labor Standards Act, home work in certain industries is prohibited except under certain conditions, and all home workers must be paid the wages set by that act, with time and one half beyond 40 hours a week.

Discrimination in Employment.—The most recent trend in labor legislation is the enactment of Fair Employment Practice Acts. Since 1945 eleven states have passed such acts, designed to eliminate discriminatory employment practices with regard to race, creed, color, or ancestry. Most of these forbid employers to discharge or discriminate against any person in compensation

or other terms and conditions of employment because of race, creed, color, national origin, or ancestry. Labor organizations are prohibited from excluding from membership any person for these reasons, and employment agencies are also prohibited from practicing such discrimination. In some states employers and employment agencies are forbidden to print advertisements or issue publications expressing any discriminatory preferences. Two of the states provide for voluntary compliance only, emphasizing the elimination of such practices by educational measures.

Administrative Agencies.—In nearly every state a department of labor, established by law, is vested with broad powers in dealing with labor problems. At first, the chief duty of labor departments was the collection and distribution of statistical information relating to the various fields of labor and to industrial development. At the present time most of the labor departments are also required to enforce and administer important labor laws. The authority of labor departments and other agencies to issue regulations and codes, particularly with respect to such fields as safety and health, child labor, and the employment of women is a comparatively recent development. In some states the labor department administers all labor laws. In some states, however, the unemployment compensation act is administered by a separate agency, and in several states a special agency has been created to administer the workmen's compensation law.

The United States Department of Labor, an executive department of the federal government since 1913, administers the Fair Labor Standards Act, the Public Contracts Act, and other labor measures, and also extends its highly developed research and service facilities to labor, management, and other government agencies. See also LABOR LEGISLATION, FOREIGN.

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LABOR LEGISLATION, Foreign. Two basic and antithetical tendencies may be noted in modern foreign labor legislation. One trend is typified by the vast body of statutes and administrative enactments which form the greater part of the social legislation (q.v.) of most countries and an important factor in the political and social reform of capitalist society. Labor legislation of this type is intended to improve the position of labor by curbing industrial autocracy and enlarging the social responsibilities of the state. Its best exemplification, with respect both to its historic origin and development, is the labor legislation of the United Kingdom.

The second trend is manifested in legislation restrictive of the activities and rights of labor. Such legislation is enacted in democratic countries when antilabor forces are in the ascendant, and in national emergencies. This tendency is most fully realized in the labor laws of totalitarian dictatorships, as, for example, the labor laws of the fascist governments of Italy and Germany, which were annulled following the defeat of the Axis powers in World War II, and the labor codes and decrees of the Soviet Union, which, in substance, were extended after the war to other countries.

British Labor Legislation.—Modern British labor legislation originated during the Industrial Revolution (q.v.) which transformed the United

Kingdom from an agrarian country into the first modern industrial nation. It was enacted in response to a clamorous demand for the elimination of a number of shocking abuses arising from the growth of the factory system. It preceded and influenced the labor legislation of other countries. The pioneer act of British labor legislation is generally believed to be the Health and Morals of Apprentices Act,¹ adopted by Parliament in 1802, which limited the hours of work of the indentured apprentices; it did not apply to other child laborers.

Its enactment marked the advent of humanitarianism as a motive of labor legislation, as virtually all previous statutes relating to the relationship of employer and worker were framed in accordance with the feudal concept of master and servant, and were designed to insure the subjection of labor. Notable English laws of this type of earlier times were the Statutes of Labourers, enacted from the reign of Edward III in the 14th century to that of Queen Elizabeth in the 16th century. Pre-eminent among later antilabor legislation were the Parliamentary enactments, known as the Combination Acts or Laws.²

The Health and Morals Act had little effect on child labor. Not only was it limited in scope, but no serious effort was made to enforce it. Moreover, the number of possible beneficiaries of the act was decreasing at the time the measure was adopted as employers found a cheaper source of labor in children who lived at home and could be laid off at will. As the cruel exploitation of child labor continued, the demand for its limitation was intensified. Adult workers, especially miners and textile workers, who also were cruelly exploited, made a continuous protest against the industrial oppression under which they and their children suffered. Strikes, riots, incendiarism in mills and factories, and the destruction of machinery (see LUDDITES) signified their hatred of their oppressors and their demand for humane treatment.

Under mounting social pressure, Parliament enacted in 1819 the first of a long series of measures called collectively the Factory and Workshop, or merely the Factory, Acts. The law of 1819 established a minimum age of nine years for child workers in cotton mills and limited the workday for those under 16 years of age to 12 hours. In 1824, Parliament repealed the Combination Acts and legalized trade unions; and, although this freedom was considerably circumscribed by an enactment adopted in 1825 and prosecutions of unions as conspiracies under the common law were conducted for years, trade unions continued thereafter to maintain a legal and effective existence. The Truck Act of 1831, the predecessor of two other acts of the same name adopted in 1887 and 1896, initiated policies whereby the payment of wages in coin of the realm was made compulsory, contracts requiring workers to spend their wages in a particular manner or place were rendered illegal, and the

imposition of arbitrary fines by employers was eliminated. A measure further limiting the workday of child laborers, enacted in 1833, is generally regarded as the first effective factory act. It provided for the first time for inspectors with power to enter the premises of manufacturers to which the law applied, for the purpose of determining whether employers were complying with the act. The employment of women and children below ground in mines was prohibited in 1842 by a statutory enactment which also provided for the appointment of government inspectors of mines. In 1844, Parliament established 12 hours as the maximum workday for women and children in textile mills. A maximum workday of ten hours for women and child textile workers was legislated in 1847, but was successfully circumvented in consequence of adverse judicial interpretation. Picketing was legalized in 1859.

In the period from the middle of the 19th century to World War I, the United Kingdom became the leading industrial and financial power of the world. The inception of free trade in 1860 demonstrated the paramount influence on government policy of the doctrine of *laissez faire* (q.v.). The equal right of all men, as individuals, to enter into contractual relationships—freedom of contract—was proclaimed as a fundamental principle of social existence.

Nonetheless, as industry, finance, and commerce prospered, individual enterprises grew into monopolies and cartels, and employers formed associations to advance their interests. Large numbers of workers began to perceive that the doctrine of legal equality was a two-edged sword. For, if on the one hand, it seemed to strike at surviving effects of the feudal legal concept of master and servant, it obscured, on the other hand, the fact that in the negotiation of individual labor contracts, employers were much stronger economically than workers. Increasing numbers of workers began to understand that the strict application to labor relations of the doctrine of legal equality led to gross economic and social inequality. Labor turned to trade unionism and legislation to limit the power of employers, achieve equality in bargaining power with them, and eliminate the inimical consequences of unrestricted freedom of contract.³

The labor laws of the period continued the earlier practice of protecting the weakest workers, but were more extensive in scope and applied to most phases of labor relations. However, they were, on the whole, supplemental to the determination by the unions, through strikes and collective bargaining, of hours, wages, and conditions of labor. By 1867, some measure of government control over factory conditions had been extended to almost all manufacturing industries, and a beginning had been made in the regulation of coal mines. A series of disasters led to the enactment in 1850 of the Coal Mines Inspection Act, which established minimum standards of ventilation and safety in collieries and provided for the inspection of coal mines. A code for the operation of coal mines was adopted in 1855.

¹ The apprentices to which the law applied were pauper children taken from almshouses and indentured for fixed periods of time to work in cotton mills. They were housed in barracks and were often compelled to work sixteen hours a day.

² These measures, adopted in 1799 and 1800, embodied the common-law doctrine of conspiracy, under which combinations of workers, formed to secure higher wages, shorter hours, or other improvements in the situation of labor, were punishable as criminal conspiracies. Under these laws, trade unions and strikes were illegal.

³ Labor was little influenced by revolutionary Marxist doctrines, but from the latter part of the 19th century when modern political working class parties were formed gave increasing support to reformist socialist ideas of gradual transformation of capitalist society into a cooperative commonwealth.

The Trade Union Act of 1871 prohibited the prosecution of labor unions as criminal restraints of trade. Under the Conspiracy and Protection of Property Act of 1875, the concerted acts of workers done in connection with a labor dispute could be prosecuted as a criminal conspiracy only if the acts were criminal when performed by individuals. The trend to remove labor disputes from the purview of criminal law was also manifest in the enactment of the Employers and Workers Act of 1875, under which breaches of contract between employers and workers generally became causes at civil law for suits for damages. But thirty years were to pass before the unions were freed by the Trade Disputes Act of 1906 from the lingering effects of the common-law doctrine of conspiracy and were exempted from suits for damages in connection with labor disputes. State regulation of labor relations in the merchant marine was begun in 1876 with the establishment of rules for the employment of seamen and their accommodation aboard ship; other subsequent acts were consolidated in 1894 and were followed by amendatory legislation in the 20th century.

As the 19th century came to a close, the scope of labor legislation was enlarged by two important measures—the Workmen's Compensation Act and the Conciliation Act—both enacted in 1896. The former law broadened existing policy by providing for compensation to workers for all injuries sustained by them in the course of their employment, for which they were not at fault, and, in cases of fatal injuries, for compensation to the workers' dependents. The Conciliation Act abolished compulsion in negotiating solutions of labor disputes and empowered the Board of Trade to promote settlements by conciliation or voluntary arbitration.

All existing factory acts were consolidated by the Factory and Workshop Act of 1901, which extended the scope of the legislation to docks and other industries, and strengthened the law's enforcement machinery; 11 years was set as the minimum age for child laborers in the industries to which the statute applied.

From 1908 to 1913, Parliament enacted a number of important laws. Noncontributory old-age pensions, paid by the government, were voted in 1908. In the same year, the Coal Mines Regulation Act established a maximum workday of eight hours for miners. This was the first statutory provision relating to the hours of work of adult male workers. The Trade Board Act of 1909 established a minimum wage in a number of trades employing principally women, and in the same year the Labour Exchanges Act provided for the establishment by the government of free employment agencies. Under the terms of the National Insurance Act of 1911, unemployment insurance was instituted for the first time. Provision was made in the Minimum Wage Act of 1912 for the joint establishment by miners and colliery owners of minimum wages. Political activity by unions was legalized in 1913. As the scope of state regulation of labor relations was broadened in the period before World War I, the administrative bodies created by the labor laws multiplied, and the enormous increase in the enactments made by these bodies gave labor legislation more and more of a nonparliamentary and predominantly administrative character. This development continued after the war.

During World War I further reforms were

legislated, notably in provisions for a minimum wage for agricultural workers, and for the establishment of minimum wages in trades in which persistent underpayment of workers was the rule. But in greater part the course of labor legislation was reversed during the war. A series of Munitions of War acts forbade strikes, provided for compulsory arbitration of labor disputes in industries producing for the war effort, and strictly limited the movements of workers in the war industries.

A brief period of postwar prosperity in the United Kingdom was followed by an economic depression, and the recovery which ensued proved to be only an interlude before the catastrophic worldwide depression of the 1930's. Large-scale unemployment began about 1921 and reached a peak of almost 3 million in 1931; until World War II, it was almost never less than a million. Among the measures taken by the government to cope with the depression were encouragement of rationalization in industry and of cartelization in industry and banking. In 1931-1932, it abandoned free trade and instituted protective tariffs on imports. From about 1937 the menace of Nazi Germany led to an increase in British armaments, and this stimulated production. But all of these measures were powerless to reverse the decline in British economic power which followed World War I.

In the interwar years, the working class was unable to make any substantial gains. Partly under the impact of the revolutionary tide emanating from Soviet Russia after World War I, accumulated discontent in the United Kingdom broke out in 1919 in the form of mutinies in the armed forces and sharp strike struggles. When, by 1920, these manifestations had ended in victory for the government and the employers, membership in labor organizations declined. Renewed industrial strife, which began about 1924 following recovery from the first postwar depression, led to the general strike of 1926. A sharp decline in the membership of working class organizations resulted from the defeat sustained by the workers in that struggle. A drop in food prices during the depression resulted in an appreciation of the standard of living of employed workers, which more than offset the decline caused by wage cuts and dulled the edge of their discontent. After the year 1926, the working class found itself engaged chiefly in defensive struggles.

The period between the World Wars I and II was not productive of far-reaching reforms. The two Labour Party governments of 1924 and 1929-1931, weak regimes of brief duration, were barren of important benefits. The labor legislation of the interwar years either extended the provisions of existing statutes or was restrictive of labor. Provision for voluntary arbitration of labor disputes by a permanent industrial court was contained in the Industrial Courts Act of 1919. In the same year, the government instituted the Whitley Councils, consisting of representatives of employers and workers, to cooperate in the determination of wage rates, hours of work, and other matters. The Insurance Act of 1920 extended unemployment insurance to virtually the entire wage-earning population. Another enactment in 1920 raised to 14 years the minimum age of workers in manufacturing industries. To the mine strike of 1920 and the threat of other unions to strike in sympathy with the

miners, the government replied with the Emergency Powers Act of the same year. By that law, the government was empowered, when industrial disturbances threatened the supply of the necessities of life, to declare a state of emergency and issue regulations to insure the supply of food, water, fuel, light, and transportation. Following the general strike of 1926, Parliament enacted the Trade Union and Trade Disputes Act of 1927, which proscribed general strikes and most sympathy strikes, restricted picketing and the political activities of unions, and prohibited the affiliation of organizations of state employees with the Trades Union Congress, the national federation of unions.

All laws governing labor relations in manufacturing industries were codified and, in many instances, strengthened by the Factories Act of 1937. The maximum work week for women and young persons was reduced to 48 hours, and of children between 14 and 16 years of age, to 44. Other provisions of the act related to standards of factory lighting, fixed rest and meal periods, and night work. Coal mines were partly nationalized in 1938. The Holidays With Pay Act of 1939 empowered trade boards and other statutory wage-fixing bodies to make paid holidays compulsory in industries under their jurisdiction.

During World War II, state regulation was extended virtually to the entire national economy. Strikes and lockouts were prohibited. Compulsory arbitration was instituted. All men and women between 18½ and 51 years of age were made liable to service at the government's discretion in the military or civilian-defense establishments, industry, or various public institutions. A minimum work week of 52 hours was established for industrial workers.

A number of minor reforms were instituted. Minimum wages and paid annual holidays were established in various occupations. The Wages Council Act of 1944 provided for wage-fixing machinery for occupations in which wages were adjudged unfair and the means for effective collective bargaining did not exist. But throughout the war the government resisted the demands of the unions and the Labour Party for sweeping social reforms.

When the Labour Party came to power in 1945, it was under the compelling necessity of implementing without delay the program of economic and social reforms on which it had based its appeal for support. It was also under the desperate necessity of increasing exports and holding down imports, which it exerted itself to do by increasing production and curbing consumption at home. Impelled to introduce far-reaching reforms, it was simultaneously compelled to initiate policies which limited the efficacy of the reforms.

The Labour government nationalized the Bank of England, the coal mines, electric utilities, overseas communications, railways, road transport, canals, docks, and harbors. It established public corporations to take over civil aviation, made cotton buying a government monopoly, and invested towns and rural communities with exclusive control of land development.

Prior to nationalization, the state entered the sphere of labor relations as an arbiter or regulator and only to the extent provided in parliamentary statutes. Nationalization made the state the employer of millions of workers. In the sense that the state, in common with other em-

ployers, was constrained to negotiate collective agreements with its employees and was limited by statute in the terms it could negotiate, the characteristic capitalist contractual basis of labor relations was retained, and no fundamental change was effected by nationalization in the scope of labor legislation. On the other hand, the state, as the employer in the nationalized industries, performed innumerable actions and made a multitude of decisions in all phases of the sphere of labor relations, which, in their sum, comprised a continuing process of administrative enactment. Thereby labor legislation was partially transformed from a limited means of regulating employer-employee relationships to an inclusive *modus vivendi* in industry between the state and the working class.

Other important developments in labor legislation followed the inauguration of the Labour government. Repeal in 1946 of the Trade Disputes Act of 1927 restored the freedom of action of trade unions. Later, during the drive for increased production, the Labour government had recourse to coercive measures. For example, the Control of Engagement Order of 1947, which lapsed in 1950, was intended to reduce labor turnover in industry by limiting the freedom of workers in transferring from one job to another.

The most important measures of the postwar Labour government were four acts which implemented the program of social security for all "from the cradle to the grave," projected during the war by Sir William Beveridge (q.v.). These measures were the National Insurance, National Health Service, National Assistance, and Industrial Injuries acts.⁴

Other Labor Legislation.—In its essential features, the labor legislation of most other countries is identical with that of the United Kingdom. Divergences are the result primarily of differences in the time, tempo, and degree of industrialization in various countries; in the effect of industrialization on peoples of diverse histories, cultures, and socio-economic structures; and in the course of social development and the strength of the labor movement in different nations.

German Labor Legislation.—Before World War I, German labor legislation, which originated in 1839 in a Prussian law restricting child labor, was essentially paternalistic in motive when it was not repressive. An industrial code regulating the employment of women and children was adopted in 1869. In the 1880's, the Social Democratic movement was outlawed; working-class economic organizations were restricted, and in accordance with prevailing theories of state socialism intended to win the workers from allegiance to the socialist movement, pioneer enactments in sickness, accident, invalidity, and old-age insurance were adopted. Later measures legalized trade unions and working-class political parties.

Important developments in German labor legislation took place after the revolution of

⁴ The Insurance Act provided comprehensive insurance for unemployment and sickness; maternity benefits and payments to widows and orphans; old-age pensions; and death benefits. Relief for those not covered by the Insurance Act was provided in the Assistance Act. By the terms of the Health Service Act, complete medical and dental care, including the services of specialists and hospitals, became available without charge. The Industrial Injuries Act transferred workmen's compensation from private companies to the state.

1918, which overthrew the monarchy and created the Weimar Republic or Second Reich. The constitution of 1919 established the role of labor legislation as a means of achieving elementary social justice and defined its function as a component part of a coordinated program for the government regulation of industry.⁵

A series of enactments during the 1920's made collective agreements the legal basis for the regulation of labor relations, established industrial courts with power to enforce compulsory arbitration of labor disputes, and enlarged the scope of social insurance. The Nazi dictatorship of Adolf Hitler (q.v.) aborted the postwar development of German labor legislation. (See also *Totalitarian Labor Legislation* below.)

Other European Countries.—In general, the labor laws of France, the Low Countries, and the Scandinavian countries followed the basic pattern of British labor legislation. In central and eastern Europe before World War II, the scope of labor legislation varied greatly. It was more developed in industrialized countries, less extensive in countries with predominantly agrarian economies. Austrian legislation was influenced by the development of German enactments. Czechoslovakian labor legislation included broad measures of social insurance. Hungarian labor laws were essentially protective measures.

Australasia.—The Australasian states were among the first countries to adopt laws relating to general categories of workers. They pioneered in the enactment in the 1890's of the first general eight-hour laws, minimum-wage statutes, and measures providing for compulsory arbitration of labor disputes by special permanent courts. The further course of Australasian labor legislation consisted essentially of the elaboration of these early laws and the inception of old-age and widows' pensions; unemployment, sickness, and maternity benefits; medical, hospital, and dental services; and other social services.

Canada and Latin America.—In the New World, Canadian labor legislation, enacted almost entirely in the 20th century, was strongly influenced by the course of labor legislation in the United States. The formulation of Latin American labor legislation followed the large-scale exploitation of natural resources by United States, British, and other capitalist interests, which occurred in Central and South America after World War I. In essence, the labor legislation of Latin American countries was conceived as a weapon of defense against oppressive foreign penetration; and the more advanced legislation, the greater was its effectiveness as the cause of nationalism. Hence, it was taken whole in most instances from the advanced social legislation of other countries; it was also markedly influenced by the conventions of the International Labor Organization (q.v.). Restricted first to industrial workers, who comprised a relatively small minority of the laboring popula-

tion in the predominantly agrarian and semi-industrialized countries of Central and South America, this legislation subsequently became more inclusive of other categories of workers. It reached its greatest development in Mexico. In some countries, notably Brazil and Argentina, it became restrictive of labor.

Totalitarian Labor Legislation.—Under totalitarian dictatorships, labor legislation is transformed from a component part of social reform into an instrument of authoritarian state regulation of life. Fascist states effect the transformation on the basis of private property; states on the order of the Soviet Union, on the basis of the collective ownership of the means of production and exchange. The statutory protection of workers under totalitarian governments may exceed in scope the labor legislation of other states. But such protection is only nominal, or is used as a temporary expedient to win working-class support, or is extended only to favored categories of workers; and it has less significance than companion laws and practices which tend, or are intended, to reduce labor to the status of slavery.

The principles of fascist labor law were elaborated first in Italy after political liberty had been abolished and the trade unions had been crushed. The main embodiments were a law enacted in 1926 and the Labor Charter of 1927 which established labor's role in the corporative state.

Nazi Labor Policy.—Fascist labor policy underwent its fullest development in Germany under the Third Reich, which, in creating a state with unlimited powers, almost entirely obliterated the distinction between public and private law. Under the Nazi dictatorship, private property was retained as the basic form of property relations, but the state determined its use. Contractual relationships were retained in form; in substance, they were replaced by state dictation. All phases of production, distribution, and consumption were regulated by the state. Political and civil liberty were abolished. Trade unions were suppressed and were replaced by the Nazi Party-controlled Labor Front, in which membership for all German workers and employers was compulsory. The basic principles of Nazi labor policy, laid down in 1934, applied the leadership principle to business; each enterprise constituted a shop community in which the owner was the leader and the workers his followers. Employers were made responsible for the determination of labor conditions and acquired the right to levy money fines on their "followers." State officials, called labor trustees, enforced loyalty to the shop community with the help of the secret police. Labor courts decided controversies affecting individual workers. Social-honor courts punished violations of the principles governing the conduct of business.

The driving force in Nazi labor policy was an acute labor shortage, arising before 1939 from the extensive preparations for war, and then from the war itself. All means were used to augment the labor force and increase production. Child labor increased. The employment of women was extended. Factory inspection was virtually eliminated. Social-insurance benefits were curtailed, and the huge funds which accumulated were invested in government bonds and thus used to finance the preparations and conduct of the war. The intensity of work was increased by the extensive reintroduction of piecework and by

⁵ The constitution affirmed the right of private property and freedom of contract, but circumscribed them "to the extent that all may be guaranteed a decent standard of living." To protect their interests, workers were guaranteed freedom of association. At the same time, the constitution declared labor to be "under the special protection of the Reich," and provided for the adoption of "a unitary labor code." Implementation of the constitutional provisions giving labor equal representation with employers "in the regulation of salaries and working conditions, as well as in the entire field of the economic development of the forces of production," was frustrated by the position of the employers.

freezing wages at the lowest levels prevailing in the economic depression of the 1930's. Long hours of work prevailed. Under a law promulgated in 1938, all German men, women, and children were subject to conscription for work or training at the direction of the state. After the outbreak of war, workers were frozen in their jobs. Thus, German labor was reduced to a status of industrial serfdom.

Soviet Labor Laws and Decrees.—From its inception, Soviet labor legislation formed an integral part of the policy of the state. The first labor decrees enacted after the Bolshevik Revolution of November 1917 were shaped by the purpose of the founders of the Soviet state to construct a dictatorship of the proletariat. The decrees were intended to establish active participation by the workers in the management of the national economy, to increase productivity on the basis of the willing collaboration of the workers in the construction of the new social order, and to institute the most advanced measures with respect to working conditions. A series of decrees provided for workers control of production, through trade unions and factory committees, in industry, trade, banking, agriculture, and transport; labor exchanges organized by the unions under the control of the local soviets; the eight-hour day; limitations on overtime, night work, and child labor; annual paid vacations; a broad and comprehensive system of social insurance; and rules governing the negotiation of collective agreements, the establishment of wage rates, and other matters. The underlying principles of this legislation were embodied in the Soviet constitution.

The intentions of this early legislation were not realized, as events imposed on Soviet society an unforeseen course of development. Workers control of production, instituted before industry was nationalized, led many employers to abandon, and others to sabotage, their enterprises. Still others were expelled by the factory committees which proclaimed their ownership of the enterprises they were created to control. For these and other reasons, the economic disruption caused by the war and the revolution was intensified and productivity declined.

Civil war, foreign intervention, and war with Poland supervened, virtually ruined the national economy, and threatened the Soviet regime with extinction. In the struggle for survival which began in the middle of 1918, known as the period of war communism, the dictatorship of the proletariat was equated with the dictatorship of the Bolshevik Party; the one-party state came into being. The first Soviet labor code, promulgated in 1918, contained many provisions designed to improve the situation of the workers, but these were unenforceable in the circumstances, and had less practical significance than the provisions of the code obliging unemployed workers to accept any work offered them, empowering the government to transfer unemployed workers to places where they were needed, establishing obligatory standards of productivity, and providing for remuneration for work in kind as well as in money. Industrial conscription for all workers was instituted in January 1920, and was followed by the creation of labor armies under state control. In effect, labor was militarized and nationalized.

During the period of war communism the central problem was survival. In the period which

followed, the principal task was economic recovery. In order to increase production, the Soviet regime in 1921 introduced the New Economic Policy. Under the N.E.P., capitalist forms of economic activity were encouraged, but the "commanding heights" of economy were retained by the state. The labor armies were disbanded but social incentives to work received little emphasis; personal interest was stressed. Piece work was introduced. Workers control of production was eliminated; the authority of managerial personnel was affirmed. A new labor code, adopted in 1922, emphasized social insurance and other benefits. The trade unions were charged with strict supervision of the protective and social-insurance provisions of the labor code. They also were made responsible for the maintenance of labor discipline; and were required to aid in increasing productivity and to participate in the state bodies which determined economic policy. The dualism in the role of the union was resolved in time, in favor of their function as organs of the state.

An important development under the N.E.P. was the inception of compulsory labor and its inclusion within the purview of criminal law. The *Correctional Labor Code* of 1924 and its subsequent amendments provided for "compulsory labor without detention under guard" of persons "sentenced . . . by the verdict of a court, or by an administrative organ."⁶

The N.E.P. rescued the national economy from chaos but left unsolved other pressing problems. Unemployment persisted as industry languished; the peasants, unable to buy industrial products, had no incentive to market agricultural produce, withheld food from the cities, and became hostile to the regime. A social crisis impended. In 1928, in order to increase industrial and agricultural production, the government instituted national economic planning in the form of the First Five-Year Plan. Other plans followed in later years. New industries were created, unemployment was eliminated, and an acute labor shortage developed. Millions of peasants were transformed into proletarians. Owing to the inexperience of the new labor force, the lack of trained technical, managerial, and administrative personnel, and other causes, the productivity of Soviet industry was relatively low and the cost of production high.

In the solution of all problems, the Soviet state, which under Joseph Stalin (q.v.) had become an authoritarian dictatorship, relied primarily on coercive measures. In increasing degree the distinction between civil law and criminal law was obliterated. Economic relationships which in other countries stand outside the reach of the law, or fall within the jurisdiction of civil law, were brought within the purview of criminal law and were directly related to the security of the state. The regulation of labor relations became to a large extent a part of

⁶ Such persons could be made to work at their habitual places of employment or at "correctional labor camps and other institutions, either near their homes or in distant regions. Persons sentenced to compulsory labor at their habitual places of work received 50 per cent of the wages; the remainder was retained by the government agencies charged with execution of the compulsory-labor program. Other persons sentenced to compulsory labor worked, "as a general rule, without remuneration." Compulsory laborers were given a food allowance which could be "augmented according to the amount of energy expended by them." Other provisions related to disciplinary measures and the privileges of compulsory laborers.

criminal law. A series of decrees during the 1930's, which totally subordinated labor to the state, incorporated the unions into the state; provided for the industrial mobilization of children, housewives, and widows; directed the mass recruitment of peasants for industrial work; ordered the direction of workers from less essential to more essential industries; increased the intensity of work by speedup, extension of piecework, and sharp differentiation in wages; gave the directors of enterprises authority to establish production quotas, fix wage rates within the limits of the state bulk appropriations for wages, control the assignment of housing accommodations and, for a time, the food supplies of workers; levied taxes on wages; circumscribed social-insurance benefits; established fines for violations of labor discipline; introduced the work book, in which each worker was required to carry; prohibited workers from transferring to other jobs without permission; and revived the czarist decree of passports for travel within the country. Under decrees related to awards for high production records, the protection of workers against abuses, and the regulation of privileges extended to workers. Violation of the regulations and protests against working conditions led to arrest by the secret police. Strikes were suppressed by armed force.

During the forced collectivization of agriculture in the 1930's, millions of peasants were appropriated and deported to Siberia and other regions, where they became compulsory laborers. Compulsory labor was placed under the jurisdiction of the secret police. The *Corrective Labor Order* of 1933-1934, which codified existing legislation regulating compulsory labor, contained provision for medical, cultural, and educational services and various privileges for compulsory laborers, but in practice these were largely ignored, and compulsory laborers were treated as industrial slaves. Before World War II, slave labor became a critical factor in achieving low production costs and an integral feature of Soviet society. The operation of entire industries and development of vast areas on the basis of slave labor occupied a prominent place in Soviet planning; and the regulation of slave labor constituted an important part of Soviet labor legislation.

During the war, further restrictions on labor were decreed. The work day and work week were extended. Persistent absenteeism in a number of essential industries was made punishable as desertion. Enrollment of young persons in vocational schools was made compulsory; and for years following completion of their studies, they were subject to assignment by the state to work in the industries for which they were qualified. The number of slave laborers was augmented by the forcible deportation to Siberia of other regions of millions of Volga Germans, Poles, Crimean Tatars, and other peoples regarded as antagonistic or potentially hostile to the regime. Prisoners of war were also used as slave laborers.

After the war the extreme rigor of Soviet labor legislation was partially attenuated, but wartime measures were retained as the government intensified its efforts to build industry and armaments and construct a vast power program in Europe and Asia. The institution of slave labor continued to flourish. And Soviet

labor policies and legislation, including slave labor, became the model for labor laws in Rumania, Poland, Yugoslavia, Bulgaria, Czechoslovakia, Hungary, the German Democratic Republic, China, and other Asiatic countries.

International Labor Legislation.—In the literal sense of a body of laws embracing established legal principles relating to the regulation of labor relations, enacted and enforced by an international authority, international labor legislation does not exist. Whether a uniform code of labor laws which will be applicable to all countries can be formulated or is desirable are debatable questions.

It is customary, however, to designate as international labor legislation the conventions of the International Labor Organization, which have exercised a considerable influence on the labor legislation of various countries. These conventions relate to the hours and conditions of work, minimum wages, child labor, the right to organize, the protection of workers in foreign countries, and other aspects of labor relations. To the extent that these conventions are adopted by various governments, they constitute treaties which tend to establish uniform minimums in labor conditions on an international scale, and bring labor relationships within the purview of international law.

Additional information on the labor legislation of various nations will be found in the articles on those countries. See also **ARBITRATION**; **INDUSTRIAL**; **CHILD LABOR**; **COMMUNISM**; **CONVICT LABOR**; **FASCISM**; **INDUSTRIAL HYGIENE**; **LABOR OR TRADE UNIONS**; **MINIMUM WAGE**; **PENSION OR RETIREMENT SYSTEM—Old Age Pensions**; **SOCIAL INSURANCE**; **SOCIAL REFORM PROGRAMS AND MOVEMENTS**; **SOCIALISM**; **STATE CONTROL**; **GROWTH OF**; **WORKMEN'S COMPENSATION**.

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LABOR ORGANIZATION, International.
See **INTERNATIONAL LABOUR ORGANIZATION (ILO)**.

LABOR or LABOUR PARTY, The, a British political party, resulting from a federation of trade union and Socialist bodies which took place at London Feb. 27, 1900, and which

was originally known as the Labor Representation Committee. The name "Labor Party" (the British spelling is "Labour") was adopted in 1906. The London conference declared the purpose of the party to be "to establish a distinct Labor Group in Parliament, who shall have their own whips and agree upon their own policy which must embrace a readiness to co-operate with any party which for the time being may be engaged in promoting legislation in the direct interest of labor." The party is an outgrowth of Fabianism (see **FABIAN SOCIETY**), and of various other efforts to promote the interests of labor through political movements. In 1906 the party placed 50 candidates in the field and 29 were elected. By 1910 it had increased its membership in the House of Commons to 42. The outbreak of World War I brought its troubles. J. Ramsay MacDonald, who had been chairman of the party since 1906, resigned his leadership because of his pacifist leanings, and Arthur Henderson carried on, supporting the government's war program loyally, though himself an advocate of peace. In 1922, however, MacDonald was again returned to Parliament, and soon again became head of the Labor Party, which in 1923 became the second largest in the House of Commons. In 1924 Mr. MacDonald, supported by the Liberals, as well as his own party, was invited to form a cabinet, and thus came into power Britain's first Labor government. MacDonald served as prime minister from Jan. 22, 1924 until Nov. 4, 1924, when his government fell. However, the Labor Party again came into power in 1929, and Mr. MacDonald once more became prime minister. This time he served until Aug. 25, 1931, when, because of dissension in the ranks of his party, his government resigned. He then formed the national coalition government at the head of which he served until he resigned June 7, 1935 because of ill health. However, he was forced to give up his party leadership in 1931, and was succeeded by Mr. Henderson, who gave up the leadership a year later. In 1935 the Labor Party elected 154 members to the House of Commons. In 1942 the affiliated membership of the Labor Party was 2,453,000, as compared with 2,663,000 in 1939. Despite its wartime membership decline, after the defeat of Germany in World War II, the Labor Party won a sweeping victory in the general elections of July 1945. The new Labor Government formed by Prime Minister Clement R. Attlee had a parliamentary majority of 146.

In 1946 at the 45th annual conference the party overwhelmingly confirmed rejection of the Communist Party's plea for affiliation, and endorsed Foreign Secretary Ernest Bevin's foreign policy. Seeking renewal of popular confidence Attlee dissolved Parliament on Oct. 5, 1951; but at the elections 20 days later the Conservatives and associates won a majority of 17 and took over the government. At the general elections of May 26, 1955 the Labor Party showed further decline; a popular vote of 12,405,130, compared with 13,948,605 in 1951, reduced to 277 the Labor seats in the Commons, while the Conservatives and associates increased to 345 seats.

LABOR TERMS. The following terms dealing with labor, labor-management relations, and particularly with wages, were adapted, for the most part, from standard glossaries. While many of the terms have more general use, their labor

connotation is here given. As far as possible terms not in current use have been omitted.

- Absenteeism.**—The failure of workers to report for work for whatever cause. See article **ABSENTEEISM**.
- Accessions.**—New hires and rehires by individual employers, one of the two major trends in labor turnover. Statistically, the total number of permanent and temporary additions to the employment roll, including both new and rehired employees.
- Across-the-Board Increase.**—A general wage increase affecting all or most of the employees of a plant, company, or industry simultaneously. May be either a uniform percentage or cents-per-hour.
- Allowed Time.**—Total time allowed or set as standard to complete a task or element of a task under wage incentive systems. Also, time permitted workers for care of tools, rest periods, or for other purpose. Both are combined in establishing piece rates or production bonuses.
- Annual Wage or Employment Guarantee.**—An arrangement under which an employer guarantees some amount of his workers a minimum amount of wages or employment during a year.
- Apprentice Rate.**—Schedule of wage rates for workers being given formal apprenticeship training for a skilled job. Usually established in a series of steps leading to the journeyman rate at the end of the term of apprenticeship.
- Apprenticeship.**—Formal on-the-job and classroom training program under joint employer and union auspices and under public supervision whereby "indentured" young workers learn a skilled trade during a stated period of time and for which they receive wages according to a set apprentice rate.
- Arbitration.**—See **ARBITRATION, INDUSTRIAL**.
- Assessment.**—A charge levied by a union on each member for a purpose not covered by regular union dues, may be either one time or periodic charges.
- Automatic Progression.**—Policy whereby wage rates of workers on jobs with established rate ranges are increased automatically and at set time intervals. All refers to automatic periodic wage advances for trainees and apprentices.
- Average Straight-Time Hourly Earnings.**—Average wages earned per hour excluding premium overtime payments and shift differentials.
- Back Pay.**—Wages which must be paid to an employee who has been discharged, either in violation of law or against the terms of a contract. Delayed payment of part of the wages for a particular period of time, arising from arbitration awards, grievance procedure regarding particular rates, errors in computation of pay, or interpretation of wage legislation. See **RETROACTIVE PAY**.
- Back-to-Work Movement.**—An organized effort to open a struck plant, participated in by employees opposed to the strike, by certain elements of the community, including at times the police, usually initiated by the management of the plant.
- Base Rate.**—The amount of pay for a unit of time worked, exclusive of premium pay for overtime or other premium payments. Under incentive wage systems, other than piece rates, may refer to the rate paid for production at "standard." May refer to the amount guaranteed per hour or other time period.
- Board of Inquiry.**—A body named by the president in national emergency dispute under the Taft-Hart Act to study the situation and make recommendation to the president.
- Bonus.**—Any payment above regular or base wage rate. Includes extra payments for night work, hazardous or extra unpleasant work, regular attendance, an overtime, as well as any annual or regular allotment such as a Christmas bonus.
- Bootleg Wages.**—Wages above prevailing rate or union scale paid in a tight labor market to attract or hold employees or below the prevailing rate or scale when an employer has accepted in order to obtain or hold employment in a slack labor market.
- Boycott.**—Refusal to buy the products of or to deal with a firm as a means of exerting pressure during a labor dispute. See also article **BOYCOTT**.
- Call-in Pay.**—Amount of pay guaranteed to a worker called in to work on a day on which he otherwise would not have reported if there is no work available or if he is not given a full or half shift of employment. This is also called **Reporting Pay**.
- Casual Workers.**—Persons employed irregularly.
- Central Labor Union.**—A city or county federation of local unions having affiliation with different international unions but with the same parent body, the American Federation of Labor (AFL). The Congress of Industrial Organizations (CIO) equivalent is the Industrial Union Council.
- Certification.**—Designation by a labor board (national or state) of a union as entitled to bargain as exclusive representative of employees in a certain unit.

Checkoff.—See article CHECKOFF.

Closed Shop.—Agreement between an employer and a union under which only members of the union may be employed. Prohibited by the Taft-Hartley Act except in cases of agreements which were made previously and are still in effect.

Clothing Allowance.—Allowance granted to those employees who are required to buy special clothing in connection with the performance of their work.

Collective Bargaining.—See article COLLECTIVE BARGAINING.

Company Union.—An organization of the employees of a single employer, usually dominated by the employer. Banned by both the Wagner Act and the Taft-Hartley Act.

Comparable Rate.—A rate paid for work agreed or determined to be comparable within a plant, area, or industry. Such comparisons are used in wage negotiations and wage determinations.

Competitive Wage.—The wage level a company must maintain to compete with other firms in the same labor market for particular types of labor. Also, the wage level required by a company to maintain a competitive price position with other firms in its industry.

Conciliation.—Activities of a third party designed to assist contending parties in a labor dispute to reach a voluntary agreement.

Contract.—An agreement defining wages, hours, conditions of employment, and related matters, usually between a union or group of unions and an employer or group of employers.

Contributory Pension Plan.—A pension plan for the benefit of the employee under which the cost is shared by the employer and the employee. See also article PENSION OR RETIREMENT SYSTEM.

Cooling-off Period.—A period of time during which employees may not strike under the Taft-Hartley Act and other laws, requiring a definite period of notice before a work stoppage may be enforced.

Cost-of-Living Adjustment.—An adjustment of wages or salaries in accordance with changes in the cost of living as measured by an appropriate index of the retail prices of goods and services that enter into the consumption of low- and moderate-income families.

Craft Union.—A union made up of members doing a specific type of work and possessing definite skills required to do that work. In actual fact, there are few pure craft unions in the United States.

Idle Time.—Time lost by a worker because of a lack of materials, a breakdown of machinery, or other causes beyond his control.

Incident Pay.—Special payment to a transportation worker who is required to report for work at a point far removed from his home terminal.

Recertification.—Withdrawal by a labor board of designation of a union as the bargaining representative of a group of employees as a result of a vote by the employees expressing the wish of a majority no longer to be represented by the certified union. The vote, a decertification election, is provided for in the Taft-Hartley Act.

Disability Compensation.—Insurance program (in New Jersey, California, Rhode Island, New York, and in railway employment, 1953) to provide for costs of medical care and loss of wages resulting from inability to work resulting from non-work connected injury or sickness.

Discharge.—Permanent separation of an employee from an employer's payroll, initiated by the employer for such reasons as incompetence, violation of rules, dishonesty, insubordination, laziness, habitual absenteeism, or inability to meet physical standards.

Discrimination.—Refusal to hire, promote, or admit to union membership because of race, creed, color, sex, or national origin; also, refusal to hire or promote or hiring or promoting as a means of assisting or weakening a union.

Discriminatory Discharge.—Discharge for union activity or because of union membership, an unfair labor practice under both the Wagner Act and the Taft-Hartley Act.

Dismissal Pay or Compensation.—A specific payment which is given an employee upon permanent termination of employment through no fault of his own.

Downgrading.—Reassignment of workers to tasks with lower skill requirements and lower rates of pay.

Dual Union.—A labor union attempting to recruit members from among a group of workers already within the established jurisdiction of a union.

Economic Strike.—A strike caused by an issue other than an unfair labor practice of an employer.

Emergency Board.—A board appointed under provisions of the Railway Labor Act by the President when a work stoppage is impending on railways or airlines in interstate commerce.

Emergency Dispute.—A labor dispute in which a work

stoppage would jeopardize the national health and safety, for which the Taft-Hartley Act provides special procedures, including establishment of a Board of Inquiry, issuance of an 80-day injunction, and voting by employees on the employer's last offer.

Employee Representation System.—A plan under which representatives of the employees of a company are elected to a joint worker-management council at which grievances or company policies are discussed.

Employer Association.—An organization of employers in the same industry or line of business or locality, formed for common action in labor matters; occasionally these act as bargaining agent with a union or group of unions.

Entrance Rate.—The hourly wage rate which a worker receives upon being hired into an establishment.

Equal Pay for Equal Work.—Payment of equal compensation to all employees within an establishment or other unit performing the same kind and amount of work, regardless of race, sex, or other characteristics of the individual workers.

Escalator Clause.—Provision in a union agreement allowing for adjustment of wage rates in accordance with changes in the cost of living as measured by an appropriate index.

Escape Period.—A period of time during which workers may resign from a union in order not to be bound to continue membership obligations upon renewal of a union shop, checkoff, or maintenance-of-membership provision.

Exclusive Jurisdiction.—A basic principle of unionism in the United States, that a national or international union will not be challenged in its right to organize and represent all workers doing certain stated types of work as specified in the charter of the organization.

Fact-Finding Board.—A board appointed to determine the facts and make recommendations for a settlement of a major labor-management dispute.

Fair-Employment Practices.—Employment practices, including firing and promotion, which do not violate prohibitions against discrimination based on race, color, religion, or national origin.

Featherbedding.—Requiring that workers be hired to perform services which are not needed, prohibited by the Taft-Hartley Act.

Federal Labor Union.—A local union composed of workers engaged in occupations not included in the jurisdiction of a national or international union and chartered directly by the AFL. The CIO equivalent is the Local Industrial Union.

Fixed Shift.—When a group of workers maintains the same schedule of hours of work week after week.

Free Riders.—A term applied by union members to non-members who enjoy without costs the benefits of a contract obtained through the efforts of the dues-paying members.

Free Speech.—Guaranteed to employers by the Taft-Hartley Act; they can express their hostility to unionization but may make no threat of coercion or promise of benefit. Coercive expressions are unlawful interference with workers' rights. Also, the legal basis of picketing.

Fringe Benefit.—A benefit supplemental to wages received by workers, including paid holidays, paid vacations, pensions, health, welfare, and insurance benefits.

Furlough.—A layoff period.

General Strike.—Wide extension of sympathetic strikes throughout virtually all enterprises of an area in support of primary strike.

Grievance.—Complaint of an employee, a union, or an employer, that a provision of a collective bargaining agreement has been violated.

Grievance Committee.—A body designated by a union to meet regularly or on call with the management to seek adjustment of accumulated grievances.

Guaranteed Rate.—Rate of pay guaranteed to an incentive worker.

Guaranteed Wage Plan.—See ANNUAL WAGE OR EMPLOYMENT GUARANTEE.

Handicapped Worker Rate.—A lower rate of pay for a worker whose efficiency is impaired because of physical or mental handicaps.

Hiring Hall.—A place where workers gather for assignment to employment. Most common in maritime and waterfront employment arrangements, but also found in other lines of work, such as the building trades. Operated on the principle that the man who has waited longest has first chance at the next assignment.

Holiday Pay.—Payment to workers, usually at regular rates, for holidays not worked. For work done on holidays, payments are often provided at premium rates.

Homework.—Work done in the homes of workers, usually on a piecework basis, formerly common in the garment industry, where it was also known as the sweatshop system.

Hot Goods or Cargo.—Produced by strike-breakers or

- workers hostile to a union, which union members resent having to handle or use.
- Hourly Rate.**—The rate of pay expressed in cents-per-hour applying to workers paid on a time basis.
- Impartial Chairman.**—A "third party" designated under an agreement between a union and an employer or employers' association to arbitrate grievances arising under the contract. Used extensively in the garment industry for setting "prices" on individual operations.
- Improvement Factor.**—An annual wage increase of a stipulated amount during the life of an agreement, first adopted by the CIO Auto Workers and General Motors Corp. in May 1948, designed to enable the wage earners to share in the benefits resulting from the increased productivity of the entire economy.
- Incentive Rates.**—Wage rate system based on output rather than time worked. May apply to piece rates, rates of pay per unit for production above a predetermined minimum standard of output, a ratio of management-labor sharing of savings in labor costs resulting from operation of an incentive system, or to other methods of pay based on individual or group production performance.
- Individual Rate.**—Where no formal wage structure exists, the wages paid are individual rates, and are based, loosely, on the job being done, the training, ability, skill, and bargaining strength of the individual worker.
- Industrial Union.** A labor organization including all employees of a plant or industry, no matter what type of work they may do; usually includes all production and maintenance workers in the unit, regardless of their skill or training, race or sex.
- Initiation Fees.**—Charges made by a union for the privilege of membership. The Taft-Hartley Act prohibits excessive or discriminatory initiation fees.
- Injunction.** A court order demanding that certain things be done or not be done on the legal ground that otherwise the complaining party would suffer irreparable damages. The issuance of injunctions by federal courts was restricted by the Norris-LaGuardia Act. Violation of an injunction may be punished as contempt of the court issuing the order.
- International Confederation of Free Trade Unions (ICFTU).**—Association of the national trade union federations of the democratic, non-Communist nations. The American Federation of Labor, the Congress of Industrial Organizations, and the United Mine Workers were among the founding groups. The 3d World Congress of the ICFTU was held in Stockholm, Sweden, in July 1953.
- International Union.**—A national union organization with locals in the United States and some other country, usually Canada.
- Job Bidding.**—Process of posting notices of job vacancies to allow interested employees to apply for such openings.
- Job Classification.**—Arrangement of the jobs in a plant or industry into a series of categories, each of which is based on progressively higher requirements in terms of skill, experience, training, and similar considerations. Job classification is possible after job analysis and job description.
- Job Description.**—A written statement listing the elements of a particular job or occupation.
- Job Evaluation.**—Evaluation or rating of jobs to determine their position in a job hierarchy. May be achieved through assignment of points or use of some other rating method for essential job requirements such as skill, experience, and responsibility. Used widely in establishing wage rate structures and in eliminating wage inequalities. Applied to jobs, not to the individuals holding the jobs.
- Joint Board or Council.** A delegate body composed of representatives of more than one local union of a national or international union in an area formed for collective bargaining purposes.
- Joint Rate Setting.**—Process of establishing rates of pay jointly by representatives of management and labor. Union participation in rate setting is extensive in the apparel industries; in industries where management retains greater prerogatives over rate setting, the unions have recourse to the grievance machinery to secure adjustment of unsatisfactory rates.
- Journeyman Rate.**—The rate of pay for a journeyman or fully qualified worker in a skilled craft or trade who has completed an apprenticeship or equivalent training. Typically, the minimum rate for the trade in a particular area, or the union scale.
- Jurisdiction.**—Exclusive right claimed by a union on the basis of its charter to organize a class of employees without competition from other unions. Term also used regarding the scope of authority of a labor board.
- Jurisdictional Dispute.**—A dispute between two or more unions over the right to represent workers doing certain types of work over which each claims to have exclusive jurisdictional rights.
- Jurisdictional Strike.**—A strike to enforce a jurisdictional claim by a union to represent workers doing certain types of work. Prohibited by the Taft-Hartley Act for work involved in interstate commerce.
- Kickback.**—The return of a portion of wages earned as the result of a secret agreement enforced by the person who has hired an employee as a condition of his employment or continued employment, thereby evading payment of full union scales or legal minimum rates. Prohibited by federal law in 1931 for workers on publicly financed construction projects.
- Labor Grade.**—One of a series of rate steps (single rate or rate ranges) in the wage rate structure of an establishment. Labor grades are an outcome usually of some form of job evaluation, by which occupations of approximately equal "value" or "worth" fall into the same grade.
- Labor-Management Relations Act of 1947.**—The basic federal law regulating labor relations of enterprises engaged in interstate commerce (except transportation). Popularly known as the Taft-Hartley Labor Act. Passed over the president's veto on June 23, 1947. See also **ARBITRATION, INDUSTRIAL.**
- Labor Relations Board.**—May refer either to the national or a state board named to administer a labor relations law.
- Labor Turnover.**—As originally used the term meant the act of a master transferring an apprentice to another master to complete his time; at present, it connotes resignations and dismissals of wage or salary-earners. The employer usually computes turnover on an annual percentage basis; a 50 per cent turnover for a year means that dismissals and replacements are equal to half the normal number of persons on the payroll.
- Layoff.**—Temporary termination of employment initiated by the employer without prejudice to the worker. For statistical purposes, lasting or expected to last more than seven consecutive calendar days without pay.
- Learner.**—A worker who receives informal training through actual performance on the job under supervision.
- Learner Rate.** The rate of pay or schedule of rates applicable to workers inexperienced in the job for which they are employed during their training period.
- Local Union.**—Group of organized workers having a charter from a national or international union. Usually, the local's membership is restricted to employees in a single plant or area.
- Lockout.**—A work stoppage initiated by management as a means of forcing employees to accept the terms offered by an employer.
- Maintenance-of-Membership.**—A form of union security widely adopted during World War II, under which employees who were union members or who joined the union must continue so during the life of the contract as a condition of employment, advanced a compromise formula when a union was demanding a union shop or closed shop and the employer unwilling to concede that much union security.
- Majority Rule.**—A basic principle in American collective bargaining, that a union designated by a majority of the employees in a bargaining unit is the exclusive bargaining representative for all of the employees in the unit.
- Make-up Pay.**—Allowances given by employers to piece-rate workers to make up differences between actual piece-rate earnings and earnings at guaranteed rates or statutory minimum wage rates.
- Mediation.**—Offer by a disinterested third party of offices to the parties in a labor dispute; the entrance of a third party into a labor dispute in an effort to effect a settlement. The mediator makes recommendations and assists the disputant parties in reaching a settlement.
- Mediation Service.**—The Federal Mediation and Conciliation Service (FMCS), re-formed as independent agency by the Taft-Hartley Act, defined duties in all labor disputes affecting interstate commerce (except interstate transportation). Its predecessor, the United States Conciliation Service, was a bureau in the United States Department of Labor.
- Merit Increase.** An increase in the wage rate of individual worker on the basis of performance service. May be administered at discretion of the employer, according to provisions of agreements of automatic increases within a rate range, or as a result of periodic performance reviews.
- Minimum Job Rate.**—The minimum wage rate for experienced workers on a given job.
- Minimum Plant Rate.**—The minimum rate of pay experienced workers in the lowest-paid job in establishment.
- Minimum Wage.** Rates of wages, established legally through collective bargaining, below which workers cannot be employed.

Miscellaneous Separations.—Includes termination of employment because of permanent disability, death, retirement on a company pension, or entrance into the armed forces for service of more than 30 days; used in statistical calculation of labor turnover.

Multiple-Employer Unit.—A bargaining unit made up of the production and maintenance workers employed by more than one employer, usually in the same industry and same general area.

National Labor Relations Act.—Popularly known as the Wagner Act, passed July 5, 1935, and in effect until June 23, 1947, when, with amendments, it was included in the Taft-Hartley Act.

National Labor Relations Board. Established by the Wagner Act and continued, with amended authority and organizational structure, by the Taft-Hartley Act, to enforce the provisions of these laws governing labor-management relations of firms engaged in interstate commerce, except transportation.

National Mediation Board.—Federal agency established by the Railway Labor Act charged with mediating labor disputes on the railways and airlines and with conducting representation elections in this area.

Noncontributory Pension Plan.—A pension plan for the benefit of the employee under which the entire cost is borne by the employer.

Nonproduction Bonus.—A bonus that depends on factors other than the output of an individual worker or of a group of workers.

No-Raiding Agreement.—An agreement between two or more unions (which experience has shown to be competing) that they will not seek to recruit members from among already established and certified locals of other unions which are parties to the agreement.

Norris-LaGuardia Act.—Federal anti-injunction legislation adopted March 23, 1932.

Occupational Rate.—Wage rates (single or ranges) that are designated for particular occupations in an establishment, area, or industry.

Open Shop.—A plant where employees are said to be free to join or not to join a labor union as a condition of their employment; the opposite to the closed shop, where only members of a union may be employed. Unionists charge that union membership or activity is the cause of the discharge of workers from open shops.

Outside Union.—A nationally affiliated union seeking to organize the workers in an unorganized plant or one in which the employees belong to a plant union.

Overtime. Time worked beyond a standard workday or workweek for which premium wage rates are customarily paid; may also refer to the wages paid for overtime work.

Overtime Premium Pay.—Payment of wages at premium rate for time worked beyond the regular hours of employment established by union agreement, employer or industry practice, or by law. Typically, "time and a half" is paid for overtime work.

Pace Setter.—A worker who is better than average on a particular job, and whose production is used by the employer as a standard for measuring the amount of work which can be done by employees in a given period of time.

Package.—A term used to describe a combination of benefits received by workers as a result of collective bargaining.

Pattern Settlement.—A key wage settlement setting the pattern for other wage adjustments within an industry or labor market.

Payment by Result.—Any method of wage payment where the amount of the wage depends upon the amount of output.

Penalty Rate.—An extra rate which is paid for hazardous job, late-shift work, Sunday and holiday work, and for overtime.

Perquisite.—Furnishings by employers of food, lodgings, and other payments in kind to workers in addition to monetary compensation.

Picketing.—Conducted usually by members of a union to give public notice of the fact of a labor dispute and to present the union's side of the argument. Peaceful picketing is legally regarded as an exercise of the right of free speech.

Piece Rate.—The predetermined amount paid to a worker for each unit produced under an incentive wage system. May be based on individual or group output.

Piece Work.—A method of wage payment based on units of output.

Plant Union.—An organization of the workers of a single plant, not affiliated with other workers' organizations.

Portal-to-Portal Pay.—Payments made for time spent on company premises in getting to and from the working place, most notably in mining.

Preferential Shop.—A form of union security in which the employer agrees to give certain preference to union members in hiring, or that a certain per-

centage of the work force will be union members throughout the duration of the agreement.

Premium Rate.—Extra rate paid for overtime, work on late shifts, holiday or Sunday work, or work in particularly dangerous or unpleasant occupations. Also used in connection with extra rates paid to employees having exceptional ability or skill.

Prevailing Rate.—Typically the predominant or more common wage rate paid to a group of workers, usually with reference to specific occupations in an industry or labor market area. In making legal determinations, due to a variety of interpretations of the term, it is necessary to have a specific mention of the area, occupation, industry rate, and type of quantitative measure involved to have definite meaning.

Probationary Rate.—Rate of pay for an experienced and otherwise qualified worker during the initial period of his employment on a new job or in a new plant. May be lower than the minimum for the job or may be the minimum rate.

Production Bonus.—A bonus payment directly related to the output of an individual worker or a group of workers.

Quit.—Termination of employment initiated by employee for such reasons as acceptance of another job with another employer, dissatisfaction, return to school, marriage, maternity, ill health, or voluntary retirement where no pension is available.

Racketeer. A union official who extorts money from employers through threatening to cause a strike or to organize a group of unorganized workers.

Rate Cutting.—Reduction by employers of established incentive or time rates in the absence of changes affecting job content.

Rate Range.—A range of wage rates for the same job, with specific rates for individual workers within the range determined by merit, length of service, or a combination of various concepts of merit and length of service. Automatic progression from the minimum to the maximum after specified periods of service is common.

Rate Setting.—The process of establishing wage rates through joint union-management action or by management alone. May involve job evaluation and time and motion study. May also involve comparison with rates for similar work in the industry or in the local labor market.

Real Wages.—The goods and services that can be purchased with money wages; an expression of the purchasing power of money wages. Over periods of time, changes in real wages are obtained by dividing indexes of money wages by an appropriate index of consumer prices.

Recognition.—Acceptance by an employer of a union as the bargaining representative for a group of workers in his employ.

Registration.—Filing of certain required information prescribed by the Taft-Hartley Act by a union with the United States Department of Labor. Failure to so file disqualifies a union from receiving National Labor Relations Board services.

Regular Rate.—The rate of pay received by a worker for all hours of work performed at straight-time rates.

Representation Election.—Voting by employees for the purpose of selecting a bargaining representative, usually conducted by a labor board.

Retroactive Pay. A wage increase effective to an agreed-upon date prior to the date of the agreement. Delayed payment of part of the wages for a particular period, resulting from a retroactive application of wage increases arising from wage negotiations. In a unique award in the textile industry in 1953, an arbitrator ruled that a retroactive wage reduction was in order. See BACK PAY.

Right-to-Work Law.—Legislation passed by a number of states making union security agreements illegal by forbidding contracts which make employment conditional upon membership or non-membership in a union.

Rotating Shift.—System of rotating the crews where two or more shifts are worked in an establishment, to distribute day and night work on an equal basis among the various workers.

Round of Wage Increases.—A term widely used since World War II to describe broad wage movements affecting large segments of the economy. Actually these wage movements exhibited great internal diversity and were in no sense uniform, except that they came at about the same period of time.

Royalty.—Payments to the union health and welfare funds of the mine workers' and of the musicians' union, based on the number of tons of coal mined or phonograph records produced. Also, a basis for payment of composers, singers, and authors, as a percentage of the sales of sheet music, records, and books.

Runaway Rate.—A piece rate or incentive rate, which,

- because of changed technology or faulty rate setting, results in earnings which are out of line with earnings of workers doing jobs with similar requirements in the same area or industry.
- Runaway Shop.**—A business removed from where it has been operating in order to avoid bargaining with a union.
- Run-off Election.**—A second employee representation election conducted by a labor board between two alternative choices after a first election has failed to show a majority preference among three or more alternatives.
- Salary Rate.**—For workers hired on a weekly, monthly, or annual basis, the rate of pay is normally expressed in terms of dollars per week, month, or year, although they may be paid monthly, semi-monthly, or more often.
- Scab.**—Term of opprobrium applied by strikers to non-striking fellow employees.
- Secondary Boycott.**—Refusal to deal with or buy goods or services from a firm which is a customer or supplier of an employer with whom the union has a dispute, thereby attempting to bring economic pressure to bear on the employer involved in the primary dispute.
- Secondary Strike.**—A strike against an employer in which a union attempts to force that employer to use pressure upon another employer who is being struck by the union, to induce the other employer to accede to the union's demands.
- Selective Placement.**—Employment placement process devised to match productive capabilities of handicapped workers with requirements of jobs to achieve the fullest possible utilization of their potential skills.
- Seniority.**—Length of service of an employee with an employer (or in a department or other subdivision), serving as the basis of rights accorded, as in the order of layoff and of rehiring, or in preference for promotions if other factors are equal.
- Separations.**—Terminations of employment initiated either by the employer or the employee, one of the two major trends in labor turnover. Includes quits, discharges, layoffs, and miscellaneous separations (including military).
- Severance Pay.**—A cash allowance made to a worker leaving a payroll, who has not qualified for a pension.
- Share-the-Work.**—Limiting the number of hours worked by each employee instead of laying off employees during periods of slackened business.
- Shift.**—A term applied to a work period when two or more groups of workers are employed at different hours during the operating time of an establishment. In some industries, the terms "tricks" or "tours" are used instead of "shifts."
- Shop Steward.**—Union official named by a department or other small number of employees to represent them in grievance cases with the foreman or supervisor.
- Shutdown.**—Temporary closing of a shop or plant due to slackened business or changing equipment for the production of new models or of new products.
- Single Rate.**—A rate of pay which is the same for all workers on the same job or in the same job classification, and under which the individual worker on a job receives the same rate during the entire time that he is holding the job.
- Sit-Down Strike.**—Work stoppage in which the strikers stayed inside the plant but refused to work. Used in a number of dramatic situations, 1935-1937, but declared illegal in the *Fan Steel* decision; reported to have been used by some East German workers in mid-1953.
- Slow-Down.**—Concerted restriction of speed of work to enforce demands made upon an employer. In transportation, this may take the form of a "Rule Book Strike" in which all the rules "in the book" are observed literally, thereby slowing train schedules.
- Special Permit Rate.**—A wage rate paid to a union worker who comes from another city and is employed under a special permit because of local labor shortages, and usually the same rate as paid to a permanent worker; in the brewery industry, however, during the peak summer season, this rate is usually lower than that paid to "regular" union brewery workers.
- Speed-up.**—Increasing the pace of operations, usually through accelerating the speed of machines which employees must attend; usually this is done without the consent of the workers.
- Spendable Earnings.**—The money earnings of workers less various amounts deducted for taxes and other purposes from the payroll; broadly equated to "take-home pay."
- Split Shift.**—Daily working time that is not continuous, but distinctively split into two or more working periods. This is typical in local transportation (peak or rush periods) and in food dispensing.
- Standard Rate.**—A basic rate of pay established for an occupation in a plant, industry, or community through collective bargaining, company regulation, or by law.
- Stretch-out.**—Increasing the work quota of employee through assigning a larger number of operations to be performed or a larger number of machines to be attended by each employee.
- Strike.**—Concerted stoppage of work by a group of employees used as a means of exerting economic pressure on their employer in order to win recognition or acceptance of terms advanced by the employees. Statistically, a stoppage must be for one shift or more or one day or more to be counted as a strike.
- Strikebreaker.**—A person engaged in the "trade" of taking employment in struck plants, either as "production worker" or as a guard. This activity was sharply curbed by the passage of a federal law prohibiting the transportation of strikebreakers in interstate commerce and by tightening state laws for licensing agencies which furnished strikebreakers.
- Subminimum Rate.**—A wage rate below the minimum established for an occupation, establishment, industry, or area by union agreement, law, or policy, paid to learners, substandard, superannuated, probationary, or special permit workers.
- Submission.**—A statement of the issues of a dispute agreed upon by the parties which furnishes the basis of an arbitration.
- Subsistence Allowance.**—A payment to a worker for expenses covering meals, lodging, and transportation while in a travel status for his employer.
- Substandard Rate.**—A rate of pay below the prevailing or standard level for a worker whose efficiency is impaired because of physical or mental handicaps.
- Super Seniority.**—Granted in certain contracts to union shop stewards, in order that the employees will have union representation for grievances so long as they are any workers in their department.
- Superannuated Rate.**—A rate of pay below the prevailing level for a worker above a certain age. Frequently such rates are allowed in union agreements, some of which set a definite proportion of superannuated workers who are to be employed under the terms of the contract.
- Supervisor.**—An employee who has the right to hire and fire other employees or who can effectively recommend that they be hired or fired. Although foremen and other supervisors may organize into their own unions and attempt to win bargaining rights, the Taft-Hartley Act gives supervisors no protection in their efforts to secure collective bargaining.
- Swing Shift.**—An extra shift of workers required in establishments where continuous or 7-day operations are scheduled, to provide other crews with days off rotating among all the other shifts.
- Sympathetic Strike.**—A strike called in support of another strike.
- Taft-Hartley Act.**—See LABOR-MANAGEMENT RELATIONS ACT OF 1947.
- Target.**—A rate set, in piece-rate systems, with the objectives of making it possible for a worker to earn an agreed-on percentage above the base rate.
- Temporary Rate.**—A wage rate set tentatively on new work; also called "experimental" or "trial" rates.
- Time Study.**—Engineering analyses of time required to perform a job.
- Trainee.**—Term applied to workers who receive formal training for occupations requiring a limited degree of skill; the training may include some classroom work.
- Travel Time.**—Time spent by a worker traveling to and from a designated point and the place of work; includes portal-to-portal in mining, deadheading on the railroads, and out-of-town work performed by building tradesmen, mechanics, musicians, etc.
- Unauthorized Strike.**—A strike by employees against the advice or without the approval or sanction of their union, as a wildcat strike.
- Unfair Labor Practice.**—A practice forbidden under the federal or a state labor relations act. Under the Wagner Act, these were a list of prescribed activities of employers; under the Taft-Hartley Act, the list was broadened to include a series of activities of labor organizations as well.
- Unfair List (or "We-Do-Not-Patronize" List).**—The names of employers voted by a labor body to be "unfair to organized labor" because of their refusal to recognize a union or drawn-out refusal to reach an agreement with a union. During 1952, the Supreme Court of the United States confirmed an award of damages to an employer so listed by a central labor union.
- Union Insignia.**—Buttons, badges, or other insignia showing that the wearer is a union member, or a "paid-up" member. The right to wear these as an organizational tactic while on the job has been guaranteed by the NLRB.
- Union Label.**—An identifying mark, registered with a duly-constituted authority, placed on goods to show that they were produced by union labor or in a shop

which deals with organized labor and has the right to use the union label. Most union members pledge to give preference in their buying to products bearing the union label.

Union Rate.—An hourly wage rate, usually a single rate for an occupation or trade, established by agreement reached through collective bargaining. Usually the minimum rate that may be paid to qualified persons in the job; there are usually no restrictions preventing an employer from paying above the union scale.

Union Shop.—The strongest form of union security permitted under the Taft-Hartley Act. Under this, while the employer is not restricted as to who may be hired, all employees must become members of the union within a specified period of time and continue to be members in good standing. Illegal in states which have adopted "Right-to-Work" laws.

Union Shop Card.—Registered certificate issued by unions in the service trades indicating that the employer deals with the union and that his business is thereby deserving of the patronage of other union members.

Unit.—The "unit appropriate for collective bargaining," consisting of all employees entitled to select a single agency to represent them for collective bargaining.

Upgrading.—The process of a more-rapid-than-normal advancement of workers to jobs having greater skill requirements and commanding higher rates of pay. Characteristic of manpower utilization during a "tight labor market" such as prevailed during the latter years of World War II; the converse of downgrading.

Vacation Pay.—Payment for a period of time received by workers for vacation purposes. During busy times or in a tight labor market, workers may be given the option of accepting vacation pay in lieu of time off.

age Advance Plan.—Advancing of wages in short workweeks under plans obligating employers to maintain weekly wages up to a specified minimum level, as under an Annual Wage or Employment Guarantee.

age and Salary Administration.—The managing and supervision of the wage structure of an employer. Involves the application of wage and salary adjustments according to established policies, the analysis of such data as cost of living, prices, wage and salary surveys which have a direct bearing on the wage structure and on wage negotiations. May also involve the establishment of new rates through job evaluation, job analysis, and time studies.

age Assignment.—A voluntary transfer by a worker of some of his earned wages to another party or parties. May be for payment of purchased goods or debts, savings bonds, charitable donations, and union dues and assessments.

age Differentials.—Patterns of differences in prevailing wage levels have been discovered, based on a variety of factors, including differentials between skills and occupations, between regions, between sexes, between shifts, between organized and unorganized workers, between cities of various sizes, between industries, between areas, and between large, medium, and small-sized labor forces employed by single establishments.

age Inequalities.—An unjust disparity between wage rates of workers whose duties and responsibilities are similar or identical.

age Inequities.—An unjust relationship between the wage rates of workers or of job classifications.

age Leadership.—The influence exercised by the wage settlements reached by a large firm or group of firms on other settlements in an industry or labor market.

age Level.—The level of wages received by workers in an occupation, establishment, industry, or area, generally indicated by average wage rates.

age Policy.—A formalized practice of an establishment, association of employers, or industry relating to the elements of wages, such as wage rate scales, shift differentials, overtime provisions, nonproduction bonuses, automatic increments, paid holidays, paid vacations, pensions, and insurance benefits.

age Rate.—The monetary compensation for a given unit of time or effort by which a worker's pay is calculated.

age Reopening.—A provision in a union agreement permitting the question of wages to be opened for negotiation before the expiration of the balance of the agreement. Found usually in "long-term" contracts, but not in those in which automatic escalation is a provision.

age Review.—A periodic review of the performance of workers to determine or select those who deserve merit increases or advancement to higher paying jobs.

age Structure.—The sum total of the various elements and considerations that characterize a specific wage rate schedule in an establishment, industry, area, or the country as a whole.

age Survey.—A wage study based on the collection, tabulation, and analysis of original data. Wage surveys are of many types, and the kinds of data

collected depend upon the uses to which the surveys are put.

Wagner Act.—The popular designation of the National Labor Relations Act of 1935, which was sponsored by the late Senator Robert F. Wagner of New York.

Welfare Plan.—A feature of a collective-bargaining contract whereby specific benefits, such as insurance, pensions, medical care, and other matters are provided for employees. Employer contributions to funds for these purposes are regulated by the Taft-Hartley Act. Formerly such plans might be set up by employers or by unions; presently, if an employer elects to alter a previously existing plan, the alterations are a legitimate subject for collective bargaining.

Wildcat Strike.—A work stoppage which is not authorized or sanctioned by a union, usually to force action on accumulated grievances. Frequently a phenomena in certain plants during the period before contract negotiations "to show the boss the workers mean business." Usually a stoppage of short duration.

Workmen's Compensation.—Insurance programs, under state auspices or control except for federal employees and certain maritime workers, to provide financial provision for medical care and loss of wages and earning power resulting from industrial accidents and from sickness resulting from employment. See article WORKMEN'S COMPENSATION.

World Federation of Trade Unions.—Federation of trade unions throughout the entire world formed at the end of World War II. As a result of the increasingly obvious domination of the WFTU by the unions of Russia and the satellite nations, the unions of the democratic nations withdrew and formed the International Confederation of Free Trade Unions. The AFL refused to join the World Federation of Trade Unions.

Yellow-dog Contract.—An agreement once used by some employers as a prerequisite for employment wherein the prospective employee promised to refrain from joining a union while working for that employer; restricted by the Norris-LaGuardia Act, the courts have held that such contracts are not binding, since an individual cannot alienate his own right to join a union.

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LABOR or TRADE UNIONS. In origin, trade unions are a consequence of capitalist development. Secondary similarities of function and practice between unions and the craft guilds of medieval Europe have inspired attempts to trace the direct descent of the former from the latter. A lineal connection, however, cannot be established. Basically, craft guilds and trade unions are comparable only as historical types of combination, corresponding to different stages of economic development and successive social systems. They are analogous, rather than related, associations.

CRAFT GUILDS AND JOURNEYMEN'S SOCIETIES

Craft Guilds.—The craft guilds, which appeared for the first time toward the end of the 11th century, followed the separation of industry from agriculture concomitantly with the rise of towns and the development of urban economy. Industry developed on the basis of handicraft production in small workshops to satisfy existing demand of definite customers in local markets, and hence separately from commerce.

The craft guilds were societies of artisans, comprising master craftsmen who were both handicraftsmen and the proprietors of workshops, owning the tools and raw materials used in production, directing the work, and owning and disposing of the finished product; apprentices; and journeymen, artificers who had completed their apprenticeship and occupied an intermediate position between apprentices and masters. By custom, guild regulation, and law, apprentices and journeymen were regarded as potential master

craftsmen; and all three were held to be, not distinct groups with separate interests, but necessary stages in the development of competent artisans. The guilds were controlled by the masters.

The craft guilds were essentially middle-class associations of handicraft producers. Their chief function was the protection of artisans against competition among themselves by minute, restrictive, and comprehensive regulation of all phases of production, and against competition from other towns by monopolistic control of local markets. The guilds corresponded to a precapitalist stage of economic development, in which, on the one hand, the functions of industrial production and commerce were discharged separately by artisans and merchants, and, on the other hand, the roles of producer and owner were combined in the artisan.

Growth of Merchant Capitalism.—More to the point in determining the precursors of labor unions are the journeymen's fraternities or societies, variously designated in different countries, which sprang up during the decay of the craft guilds. As markets widened, beginning in the 13th century, the growth of trade made increasing demands on production. The guilds were fundamentally alien to production in volume for extensive markets not subject to monopolistic control, but open to competition and entailing, therefore, individual initiative and hazards foreign to the nature of the guild system. Production, consequently, developed independently of, and in opposition to, the guilds; and resulted in the evolution of the capitalist mode of production. Merchants, who theretofore had served only as intermediaries between producers, promoting the exchange of commodities, began to take direct control of production, while at the same time, energetic and ambitious master craftsmen began to produce for wider markets, reaching out for control of commerce. Control of production and commerce were combined; merchants became manufacturers; producers, merchants; and both, capitalists. As merchant manufacturers were the predominant type of capitalist entrepreneur, it is customary to refer to both types as merchant manufacturers or merchant capitalists, and even merely as merchants.

At the same time that control of production and commerce were combined in the merchant capitalist, the artisan was stripped of ownership of the instruments of production, and the roles of owner and producer were embodied separately in employer capitalists and wage workers. The merchant manufacturers bought directly from independent handicraftsmen; contracted with master craftsmen for the output of their shops; and set handicraftsmen and peasants and their women and children to work in their own homes and in rented workshops. By these practices, the merchant manufacturers preserved the handicrafts as the technical basis of production. On the other hand, they also established a number of relatively large workshops in which hand machinery was used and division of labor within the workshop was instituted by the partial splitting up of a number of handicrafts into their component operations.

As in all these instances, the merchant manufacturers generally supplied the raw materials, invariably disposed of the finished product, and tended increasingly to supply the principal tools, master craftsmen were transformed into middle-

men between merchants and producers; and independent handicraftsmen, who continued nominally to sell their products, but disposed of them for prices which were determined by the merchant, and were, consequently, the equivalent of wages, became a type of wage worker; direct employees of the merchant manufacturers were wage workers.

Under the spur of increasing trade, which it, in turn, stimulated, the rising system of manufacture undermined the guilds. In the 16th century, following the emergence of a new world market in consequence of the epochal explorations and discoveries of the 15th century, manufacture became the prevailing form of industrial production, assuring the economic supremacy of the merchant manufacturers and ushering in the era of merchant capitalism.

Journemen's Societies.—On the journeymen, the impact of these developments was calamitous. All hope of their becoming independent producers vanished as the manufacturing system made necessary for the establishment of new enterprises larger amounts of capital than journeymen could acquire in the traditional way. Their access to mastership was made increasingly difficult and, in the end, virtually impossible by the master craftsmen who, in striving to maintain themselves against the subverting and encroaching influence of the new system of production, tended to make mastership exclusive and hereditary. Journeymen were deprived of representation in the guild assemblies, and were ejected from the municipal governments in which they held office. They suffered legal persecution and were frequently maltreated. Thus there took place in the guilds, beginning in the 14th century, a process of social differentiation which culminated in the 16th century with the divorce of the journeymen from the decisive instruments of production, in the transformation of the journeymen into wage workers.

In self-defense, the journeymen formed independent associations with their own officers and ritual, and with complete systems of initiation fees, dues, fines, and various benefits. They set high standards of workmanship and moral conduct for membership. The early associations, formed in the 14th century, were principally fraternal and religious in character. And while mutual aid continued to be one of the principal functions of journeymen's societies throughout their existence, broader functions were inevitably acquired by these associations. They appealed in vain to legislatures and courts to perpetuate the restrictive measures which had protected artisans against competition and other adverse factors. At the same time, they attempted to establish control over the placement of workers in shops. They resisted the efforts of the masters to increase the number of apprentices and reduce the number of better-paid journeymen. And they protested the debasement of working conditions and the extension of the workday which the masters instituted. When their demands were refused, the journeymen frequently were successful in withholding workers from the masters, occasionally on a citywide scale. They conducted sporadic strikes. The stronger societies tried, without success, to win control of the guilds; a number won a recognized place in the guilds. Everywhere, journeymen's societies encountered not only the opposition of the masters, but also the hostility of governments. They

were repeatedly prohibited, and continual efforts were made to suppress them. Persecution caused many societies to succumb, but new associations continually sprang up to replace those which perished because of governmental hostility or failed for other reasons. In general, journeymen's combinations persisted as secret societies. And as journeymen were transformed into wage workers, the combinations they formed became unions.

DEVELOPMENT OF UNIONISM

The first unions, created during the later stages of the period of merchant capitalism, gave abundant evidence of their historical origin. Indicative of their genesis was the frequent inclusion of "journeymen" in the names of the British and American unions and of its equivalents in the designations of unions in other countries. And, in fact, the unions of this period were combinations, in greater part, of journeymen who, although wage workers, were, as before, skilled handicraftsmen. They were exclusive associations, formed on a craft and, usually, a local basis. They exhibited little sense of solidarity with the workers of other crafts and trades and excluded semiskilled and unskilled workers, but frequently admitted to membership the artisan proprietors of small shops, who labored side by side with their workers, were often as poor, and, in consequence, were presumed to have common interests with them, especially against competing shops and the capitalists for whom they worked under contract. These early unions were concerned principally with the relief of distress among their members, and strove to increase the bargaining power and protect the interests of their members by controlling access to their crafts through limitation and strict regulation of apprenticeship, by establishing the closed shop,* and by maintaining and improving wage rates. They engaged in sporadic strikes. Like journeymen's societies, they came under the ban of laws prohibiting combinations of workmen, but many were tolerated. Essentially, these early unions were a transitional form of combination between journeymen's societies and modern labor unions. By some historians they are regarded as journeymen's societies; by others, as trade unions. But however designated, they are generally held to be the true forerunners of the modern trade-union movement.

The Factory System.—The trade-union movement is a consequence of the industrial revolution which occurred in England from about 1760 to approximately 1830 and in other countries at varying later dates; and which, in creating the factory system, transformed merchant capitalism into industrial capitalism. Production in factories, based on large aggregates of tools and workers, the application of power to machinery, extended division of labor in the factory, specialization of tools and operations, and improved means of communication, superseded handicraft production, which, however, survived but decreased greatly in economic importance. It gave rise, on the one hand, to a class of industrial capitalists who supplanted the merchant manufacturers as the controllers and directors of production, and appropriated in greater part the

function of the merchants in exchange. And, on the other hand, it brought to an end the role of the handicraftsman as the dominant type of industrial producer and transformed large numbers of handicraftsmen and immense numbers of peasants into the characteristically propertyless factory proletariat of modern times.

The factory system enormously increased production and productivity and enriched the industrialists. But it took a frightful toll in human suffering as men, women, and children were mercilessly exploited by employers who, in accordance with prevailing views, were without social obligations generally and virtually without responsibilities toward the human sources of their wealth. Caught in the grip of vast inimical forces which they did not understand, large numbers of workers tried to escape by striking blindly at what they assumed to be the cause of their misery. By riots and incendiarism they sought to destroy factories and machinery. (See LUN-DITES.) But such methods of protest proved ineffectual. With increasing understanding, workers learned to distinguish between machinery as a valuable instrument of production and the uses which employers made of it to the detriment of workers. The formation of coalitions of workers, intended to end competition among them and to pit their collective strength against their employers in the determination of working conditions, offered an alternative method of resistance, based on acceptance of the factory system as the existing form of industrial organization.

The Nature of Unionism.—Thus the modern trade union originated as an elementary form of organization of the working class created by the industrial revolution. Genetically, it was primarily economic. Its immediate interests lay in the field of industrial relations. And these pivoted on the relationship between workers and employers—labor and capital—in the process of production. As this relationship, however, constituted the basic social relationship of the rising industrial order, it influenced and was influenced by all the economic, social, and political processes of capitalist society. The impact of the unions, consequently, had necessarily to transcend the sphere of industrial relations, and unions inevitably had to react to all the influences affecting industrial relations. Potentially, therefore, their sphere of interest extended to the whole of society. And inherently, if only secondarily, they were also social and political, as well as economic, associations.

The connection between the economic and political interests of the unions was manifest at their birth. The first demands made by the unions did not challenge private property generally, nor private property in the means of production specifically, but strove only to abridge rights corollary to ownership by limiting the autocratic industrial power of employers. Under the law, all individuals were equal; and as equals, in accordance with the prevailing practice of freedom of contract, employers and workers entered into individual labor contracts to conduct the process of production. But legal theory did not correspond to economic reality; and employers, in consequence of their superior economic power as owners of the means of production, dictated the terms of employment to workers whose only marketable asset was their ability to work and who faced continuously the alternatives of work or imminent starvation. For

* Major principles of the closed shop are: (1) the employment of workers exclusively through the union; and (2) their discharge only for stipulated cause with the consent of the union.

dictation of working conditions by employers, the unions proposed to substitute collective bargaining by organized workers with their employers. They demanded principally standardized equal wages and shorter hours, especially for women and children. Essentially, these were protective measures and marked the unions as defensive associations rather than as aggressive bodies formed to assault the capitalist system.

Nevertheless, they affrighted employers and beneficiaries and proponents of the new industrial order generally. For, in attempting to circumscribe property rights and restrict freedom of contract, the unions impinged directly, with adverse affect on employers, on the source of profit and appeared, therefore, to threaten the foundation of the wealth and power of the industrialists. Furthermore, in seeking as collective bodies to influence industrial relations, the unions controverted the doctrine of *laissez faire* (q.v.) which held that the interests of society are served best when economic affairs are conducted in accordance with natural law (see *LAW, NATURAL*), by individuals and without restriction by human agency. Unionism thus appeared to challenge and imperil the very basis of social existence.

The unions were met, accordingly, by employers and governments with savage hostility. Unionists were blacklisted. Scabs and violence were used to crush strikes. Undercover agents were employed to disrupt unions. Existing statutes excluding combinations of workmen from freedom of speech and assemblage were invoked against the unions, and new laws outlawing them were enacted. Thereby the existence and, therefore, development of unionism was inseparably connected with basic political relationships, among which freedom of association was vital.

As in former times, legal prohibition proved powerless to prevent combinations, which workers persisted in forming under continuing economic necessity. Gradually, unions grew in size and extent, acquired legality and gained influence, and were recognized by custom and by law in most countries as necessary institutions with important economic and social functions.

THE MODERN TRADE-UNION MOVEMENT

Factors in the Development of Unionism.

—Three interacting complexes of factors shaped the development of unionism. The first was the evolution of capitalist society; the second, the nature of the working class; and the third, the level of working-class consciousness.

Among the principal factors in the first complex were the course of industrialization, the trade cycle of alternate prosperity and depression, subordination of national economy to the world market, governmental regulation of economy, assumption of broad social responsibilities by the state, the degree of civil and political liberty, nationalism, imperialism, war, conflicts between workers and employers and between workers and the state, fascism, and revolution. Important factors of the second complex were the character of the working class as primarily industrial or agrarian; and its economic, social, and ethnic homogeneity or diversity. The third complex comprised the degree of consciousness among workers of their separate interests in contradistinction to those of their employers, and of the basic identity of interest of all workers as workers; and their acceptance of various views relating to their role in society.

The cumulative effect on unionism of the operation and interplay of all these factors was the evolution of a worldwide movement marked by great diversity of structure and policy and sharp deviation in function, and lacking a uniform pattern of development.

Craft and Industrial Unions.—In the sense that industrialization tended to transform agrarian into industrial economies, it was fundamentally the same process in all countries in which it occurred and tended to have the same general consequences. However, as industrialization took place in various industries and countries at different times and varying tempos, its specific effects were necessarily extremely varied. It is true in a general historical sense that with the progress of industrialization, the formation of craft unions of skilled mechanics was followed by the creation of industrial unions which included primarily semiskilled and unskilled workers. But no correlation can be established between the level of economic development and types of union structure. In Australia, in which the economy is predominantly agrarian and organized on a large-scale capitalist basis, industrial unionism early became the prevailing type. Industrial unions were created in the United Kingdom, in large part, through the amalgamation of craft unions. In the United States, the most industrially developed country in the world, craft unions persisted, are stronger than in any other country, and are as strongly entrenched as industrial unions.

A correlation can be established in some instances between the level of development of an industry and the type of union structure. In the building trades in the United States, in which in contrast to the country as a whole, technological development is backward, craft unions predominate. Industrial unionism has long prevailed among the coal miners in the United States. In these respects the development of unionism in the building trades, coal mines, and a number of other industries in the United States closely parallels the rise of unionism in the same industries in other countries. On the other hand, craft unionism holds undisputed sway on the railways of the United States, while industrial unionism predominates over craft unionism in the British railroading industry. Moreover, with the progress of unionism millions of workers in various countries were organized in multicraft unions, a wide variety of unions intermediate between craft and industrial unions, multi-industrial unions, and general unions with extensive or unlimited jurisdiction.

A general historical causal connection can be discerned between the development of nationwide industries and communications systems, on the one hand, and the consolidation of local into national unions and the creation of national federations of unions, on the other hand. However, variations and exceptions are numerous. This is also true with respect to economic development and the extent of unionism. In agrarian Australia, for example, unionism in the 1880's was inclusive of virtually the whole working class. In the industrialized United States in 1920, unions embraced only approximately 21 per cent of wage earners exclusive of agricultural laborers and, therefore, a still smaller percentage of the entire labor force; 30 years later, unionism included less than 30 per cent of the labor force of the country.

Effect of Trade Cycle.—The impact of the trade cycle on unionism is well known. During prosperity, the demand for labor is at its height and competition among workers for employment at its lowest, creating a favorable condition for the growth of unionism. As a general rule, unionism advanced during periods of prosperity. During depressions, layoffs and wage cuts had a demoralizing effect on the working class and generally resulted in a decline in union effectiveness and membership; the first unions were destroyed by this process. In time, unionism found the means to survive, but it was nevertheless adversely affected during periods of general unemployment. Depressions were not the sole cause of decline, however. During the prosperity years of the 1920's in the United States, union membership fell by almost a third, from more than 5,000,000 to less than 3,500,000 on the eve of the 1929 crisis, after which it fell even lower. Nor are prosperity periods the exclusive occasions for significant union growth; for in Germany, during the period of economic ruin following World War I, union membership increased from approximately 8,000,000 in 1919 to almost 11,250,000 in 1922.

Development of Union Policy.—The development of union policy took place in the three closely interrelated spheres of economy, social relationships, and political relationships; and in its principal aspects, pivoted on attitude toward the working class, toward employers, and toward the state. Attitude was determined primarily by objective conditions, but also by purpose. The principal objective factors were contradictory influences inherent in capitalist society. In the realm of purpose, ideas often played a decisive role.

International Unity and Nationalism.—The extension of capitalist relationships on a world scale and the gradual integration of economy into a world economy to which the economy of all countries became subordinate, created objective premises for the unity of the workers of the world, for the adoption of common methods of struggle, and for the formulation by unions in all countries of identical basic policies. At the same time, nationalism, representing the separate interests of nations, exerted an overwhelmingly counteracting and divisive influence. Unions in all countries strove by strikes, collective bargaining, mediation, arbitration, legislation, and related fraternal, educational, and other institutional activities, and by political action, to improve working and living conditions. They declared their solidarity with workers and unions in other countries, often aided them with funds and in other ways, including sympathy strikes and boycotts, and joined with them in international federations. They also supported measures for the imposition of tariffs and the exclusion of immigrants. Unions in many countries reflected prevailing nationalist antipathies and racialist prejudices in excluding workers because of their national origin, color, or other similar reason; or in including them in segregated organizations; or in according them less than full union rights. In the supreme test of war, which is fought in great part by workers, unions almost invariably supported their national governments and declared a truce in the struggle against employers at home.

Results of Imperialism.—Imperialism—the oppression by industrially developed countries of

economically undeveloped or less developed countries which were transformed into colonies, semi-colonies, and dependent nations—had opposite effects on trade-union policy in the oppressing and oppressed countries. The prosperity accruing to the capitalists of the imperialist powers from the exploitation of the cheap labor of the colonial and semicolonial countries enabled them to make concessions to the working class at home. Thereby, the advance of the latter was conditioned on the degradation of the colonial peoples, and a premise was created for the identification of the interests of the workers at home with those of their employers with respect to colonial policy and, often, also in regard to related spheres of foreign and domestic policy. Although this effect was at times eclipsed, for example during strikes, by the consequences of the continuing opposition of interest between workers and employers, imperialism exerted, on the whole, a predominating, conservative, and—from the standpoint of the unity of all workers—corrupting influence on the unions of the oppressor countries. In the oppressed countries, imperialism retarded industrialization and, in consequence, the development of the native bourgeoisie and working class. By its oppression of both classes it created the basis for their alliance in national revolutionary movements for political independence and economic and social development. But in draining the wealth of the oppressed countries, imperialism drove native employers to overwork their laborers, intensifying the antagonism between employers and workers in the oppressed countries, and predisposing the workers to respond favorably to social-revolutionary influences. Generally, therefore, militancy and revolutionary political interests prevailed in the development of union policy in the colonial and semicolonial countries.

Influence of Ideas.—The principal ideational influences acting on union policy were a product of the historical process which engendered unionism and shaped its development. As members of society, workers are subject to, and tend to reflect in their thinking and attitude, the prevailing ideas of their time. Because the preponderant tendency of these ideas in capitalist society is the perpetuation of capitalism, union policy inevitably manifested attachment to the capitalist system.

The special position of workers in capitalist society gave rise in them, in accordance with varying circumstances, to varying degrees of consciousness of themselves as a distinct social group with specific interests. Among the notions, conceptions, doctrines, and theories constituting working-class consciousness, two broad conflicting yet intermingling streams of ideas were paramount. One, issuing in its fundamental aspects from the totality of prevailing ideas in capitalist society, affirmed a basic mutuality of interest between workers and employers; but, deriving also from awareness of the special status of workers, predicated improvement in their position on economic and correlative social and political reforms. From these sources sprang trade-union policies of collaboration with employers in the adjustment of labor relations; reliance on mediation, conciliation, and arbitration in the solution of labor disputes; aversion to the instinctive militancy and solidarity of labor; and, in extreme instances, abandonment of the strike weapon. From these sources also arose union

policies directed toward the institution of protective labor, and broader social-welfare measures through collective bargaining and legislative enactment; public education and public health; electoral and judicial reform; and other measures generally included in the program of industrial democracy and liberalism.

Utopian Socialism.—The second stream of ideas stemmed from a rejection of private property in the means of production generally and of capitalist society specifically, and projected a new social order based on communal ownership of the sources of wealth and principal instruments of production and exchange. In the doctrines of the Utopian Socialists, primary emphasis was laid on the voluntary organization of producers' co-operatives as the alternative to capitalism, and on the force of religious and ethical beliefs to secure the voluntary cooperation of the ruling classes in abolishing exploitation and poverty. Neither trade unionism nor political activity was central to their philosophy, but they were influential in both spheres. Their penetrating criticism of social injustice and their vision of a better world tended to enlarge working-class consciousness and, through it, to broaden trade-union policy. On the other hand, their philosophy tended to divert workers from direct struggle in industry and from political struggle, and militated against the development of class consciousness and militant trade-union policy.

Marxism.—In the theory of Marxism, or scientific socialism, or modern communism, the rejection of capitalist society is predicated on irreconcilable antagonisms of basic interest between labor and capital, between the working class and the capitalist state, between the proletariat and capitalism as a worldwide system of social existence, and on the culmination of the class struggle in proletarian revolution under the leadership of a political party on a world scale, as the inevitable prelude to a worldwide classless Communist society. Pivotal in the Marxian analysis of capitalist society is the conception that the inherent tendency of wages is to fall in accordance with the development of productivity, from which was drawn the conclusions that unions were, at best, effective centers of resistance, and that their chief value to the working class lay not in the achievement of immediate gains which must always be nullified in time, but as a necessary stage in the evolution of class consciousness. From this source flowed trade-union policies intended to extend unionism to the entire working class, to sharpen struggles with employers, and simultaneously to broaden them by drawing in larger numbers of workers, and to associate the unions with the revolutionary party. On this general basis unions were included in the First International or International Workingmen's Association, founded in 1864 and led by Karl Marx (q.v.), and were federated into the Red International of Labor Unions established in Moscow in 1921 as an integral part of the worldwide Communist movement led by the Third (Communist) International.

Reformist Socialism.—From Marxism issued the current of revisionist, or reformist, socialism, better known as social democracy, and commonly called socialism to distinguish it from communism or revolutionary Marxism. Reformist socialism was the product of imperialism and of the growth and progress of the trade-union movement in the imperialist countries; of the radical-

ization of large numbers of the middle class and of the intellectuals; and of other contributing causes. In essence, reformist socialism comprised two contradictory tendencies—the struggle of labor against capital, and the accommodation of the working class to capitalist society. It shared with Marxism the latter's rejection of capitalist society and its aspiration for a better social order. It repudiated the revolutionary conclusions which Marx drew from his analysis of capitalist society, and stressed the gradual transformation of capitalism into socialism by means of coordinated working-class economic and political activity. Like communism, reformist socialism held economic action by the working class to be essential but secondary to political activity. But unlike communism, for which political activity meant primarily revolutionary mass action, in the final instance against the state, reformist socialism construed political activity as parliamentary activity; it envisaged the capitalist state as the principal instrument of the transformation to socialism.

In union policy socialism tended toward conservatism and class collaboration, toward the achievement of immediate economic gains in preference to larger working-class ends, and toward close collaboration with Socialist political parties. In Germany, Austria, the United Kingdom, Belgium, Denmark, Sweden, and other countries, unions and social democratic parties constituted the economic and political divisions, respectively, of the Socialist movement. In consequence of this association arose in 1903, on the initiative of the Second, or Socialist, International, an international trade-union secretariat, which in 1909 became the International Federation of Trade Unions. Composed of autonomous national federations, the IFTU was, as a whole, nominally autonomous. It was, however, dominated by European social democracy, in particular by the German socialist movement, and it was throughout its existence the economic counterpart of the Second International.

Anarchism.—In anarchism, rejection of capitalist society was combined with absolute emphasis on the inalienable freedom of the individual from all restraint, which was in essence an extreme extension of the individualism inherent in the doctrine of *laissez faire*. In its application to unionism, anarchism became anarcho-syndicalism. Spurning struggles for immediate gains and denouncing participation in parliamentary activity as illusory and treasonable to working-class interests, anarcho-syndicalism stressed sabotage and other forms of direct action, antimilitaristic struggles, and, above all, the general strike as the means of conducting the class struggle for the overthrow of capitalism and its replacement by a classless society composed of communes freely united in the brotherhood of man. Unions in France, Scandinavia, the Netherlands, Italy, the Iberian Peninsula, the United States, Latin America, and Australia revealed the influence of anarcho-syndicalism at different times.

In consequence of the operation of all these and many other factors not included in the foregoing discussion, no element in trade-union policy can be correlated systematically with any other. Nor can trade-union policy as a whole be correlated with other aspects of unionism. No correspondence can be established, for example, between trade-union policy and structure. Essen-

tially identical policies were pursued by unions of different structure; divergent policies were followed by unions of identical structure; and varying policies were adopted at different times by the same unions.

Functions of Unions.—As with structure and policy, so with function. Unions originated as working-class instruments of industrial warfare, intended to resist the aggressions of employers and improve conditions immediately incident to work. In fulfilling this mission, unions developed many correlative functions. Owing principally to their special needs, but also to their exclusion from the pale of accepted institutions, unions developed distinctive codes of union ethics and law. Two antipodal tendencies found expression in union morality. One was the predominant motive of social conduct in capitalist society—material self-interest—disavowed only during wartime when individual sacrifice is extolled. The other tendency was the subordination of material self-interest to the common cause of all workers as workers—working-class solidarity. Among expressions of the first tendency are failure to undertake organization of unorganized workers, jurisdictional disputes among unions, and other practices which either deliberately or in effect predicate the advance of specific union interests on the neglect of, or opposition to, the interests of other workers. Demonstrations of devotion to working-class principles include the persistence of workers in strikes in which, owing to the prolonged resistance of the employers, the workers lose more in unearned wages than they gain, on victory, from increased rates; and sympathy strikes in which the unions supporting the original strikers have no prospect of direct material gain. Union law regulated the internal life of the unions and also included numerous working rules, which were embodied in large part in collective bargaining agreements and were eventually, in some instances, made the substance and even the text of statutory law.

From exclusive concern with wages, hours, safety, and other working conditions, unionism generally extended its active interests toward inclusion of all phases of industrial relations: unemployment, disability, and old-age insurance, and other forms of social welfare; and the reform of social and political conditions affecting industrial relations. (See *LABOR LEGISLATION*; *LABOR LEGISLATION, FOREIGN*; *SOCIAL LEGISLATION*.) At its farthest reach, the enlargement of union interest included the large questions of domestic and foreign policy; in these fields, however, the interest of unionism was, on the whole, more intellectual than practical, for despite the formation of national federations, unionism was not a unitary force on a national scale, except in the isolated and rare instances of national general strikes (as in England in 1926) which were, moreover, manifestations of working-class solidarity with embattled workers rather than concerted efforts for common aims.

The enlargement of union interest with respect to industrial relations and social welfare was effected in the terms of collective-bargaining agreements and in protective labor and social legislation. In industrialized western Europe the latter method was long supplemental to the former, and the extent and effectiveness of social legislation generally corresponded to the strength of the trade-union movement. In many Latin American and colonial countries, social legislation

was originally devised to harrass foreign capitalists and circumvent native unionism, and early exceeded in scope the comparable enactments of most other countries; while unionism, owing to the general lack of industrialization and of the working class, was weak, and was discouraged by the state and on more than one occasion was suppressed. In the United States both the trade-union movement and social legislation were relatively undeveloped until the advent of the New Deal administrations of President Franklin D. Roosevelt in the 1930's.

The increasing tendency of the state to regulate economic relationships, arising in part from the necessity to mitigate the effects of unbridled competition and its inevitable opposite, unrestrained monopoly, in part from the pressure of employers for policies conducive to their interests, and also in part from the demands of the working class for protection and reform, resulted in significant changes in union functions and in the endowment of unions with new functions. Under the compulsory-arbitration system of Australia, unions tended to become "litigious" organizations, concentrating their energies first on the preparation of claims for submission to the industrial courts which disposed of them, and then on policing the awards made by the courts. In England and other countries, unions became quasi-governmental bodies vested by law with responsibilities in the state regulation of industrial relations and in the administration of governmental social-welfare policy.

Unionism curbed industrial autocracy, limited freedom of contract, and abridged the rights of employers; it also gave millions of workers a sense of dignity, independence, and achievement, a measure of security, and a hope of a better life. In great strike struggles it gave inspiring evidence of the creative intelligence and inventive abilities, devotion to ideals, spirit of comradeship, and capacity for self-sacrifice which otherwise lie latent in the working class. Unionism was the principal instrument of the working class in rising from the condition in which it found itself at the inception of capitalism.

UNIONS UNDER TOTALITARIANISM

That was the function common to all trade-union movements prior to World War I. But then began processes of social development which, wherever they occurred, transformed unionism into its opposite. Fascism in Italy crushed the unions as independent working-class organizations and converted them into instruments of the corporative state; in Germany, fascism obliterated unionism. More important historically was the fate of unionism in Russia, where the unions had been created in great part and nurtured by the revolutionary movement. From the war, in consequence of the Bolshevik Revolution of Nov. 7, 1917, emerged a new social system in the territory of the former czarist empire. The capitalist system was overthrown, the principal means of production and exchange were nationalized, and a proletarian dictatorship was established. Workers control of production was decreed on Nov. 14, 1917. The revolution, declared the First All-Russian Congress of Trade Unions, meeting in January 1918, "has created entirely new conditions . . . especially for the trade unions." At the second congress, in January 1919, Nikolai Lenin (q.v.), head of the Soviet state and Communist Party, said, ". . . the trade

unions . . . in a certain sense . . . must . . . become the founder of the new society . . . The socialist revolution can only be accomplished by the . . . collaboration of millions of individuals in the government . . . The trade unions must educate the masses and lead them to share in the government of the country. That is why nationalization of the trade unions is inevitable." Simultaneously the close cooperation of the unions with the Communist Party, under the leadership of the party, was made the official policy.

Circumstances made impracticable the immediate conversion of the unions into state institutions. But in accordance with the official views, the unions were invested with supervision over workers control of production, and were charged with creation of the Supreme Economic Council, which was intended to regulate Soviet economic life, and with the organization of the Commissariat of Labor, which they consequently dominated. Through the Commissariat of Labor the unions exercised exclusive jurisdiction over the administration of the social-insurance, labor-protection, and work-placement provisions of the labor code promulgated by the Soviet government.

Following the outbreak of the civil war, in 1919, the unions were transformed into mobilization centers, and their military functions overlapped to some extent those of the Commissariat of War. Simultaneously, they were invested with a number of functions of the Commissariat of Supplies. The acquisition of still other functions made the unions an important factor in all spheres of Soviet economic and political life. They were in effect, if not in name, organs of the state.

With the introduction of the New Economic Policy in 1921, a partial reversion to capitalist economic relationships was instituted by the government in order to stimulate production. At the same time, the government reorganized industrial establishments into state trusts to be run on commercial lines under managerial personnel responsible to the state and exercising decisive powers in the determination of plant policy. Both developments effected important changes in the functions of the unions. Emphasis was now placed on the need to protect workers in the capitalist enterprises and against bureaucratic abuses in the state economic undertakings, and in the negotiation of collective agreements. But the unions were stripped of their role in the control of production. They were nominally permitted to conduct strikes, but were constrained to avoid suspensions of work and were obliged to participate jointly with management in the conciliation and arbitration bodies established by law to dispose of industrial disputes. The unions were made responsible for the maintenance of labor discipline; and were required to aid in increasing productivity, and to participate in the state bodies determining economic policy.

The inception of national economic planning in the form of the First Five-Year Plan in 1928 resulted in immense changes in economic, political, and social relationships, and resolved the duality in the functions of Soviet unionism. As the entire process of development pivoted on the drive for production, increased productivity, and lowered cost, and as it went forward under the whip of increasing governmental coercion, the working class was completely subordinated to the state, which became a totalitarian despotism.

The scope of unionism was progressively reduced by the extension of compulsory, or slave, labor under the absolute control of the secret police. The significance of collective agreements was nullified by the investment of directors of enterprises with power to fix wage rates within certain limits, to levy fines on workers for violations of labor discipline, and to exercise other forms of control, against which the efforts of unions in other countries had been directed for more than two centuries. The arbitrary arrest and punishment by the secret police of workers who signed their dissatisfaction, and the suppression of strikes by armed force, rendered the unions futile as organs of protest. They were incorporated into the state and their central function became the maintenance of labor discipline and the execution of the state's drive for production. Nominally, the Soviet unions continued to be organizations serving the interests of wage earners; in reality they became instruments for the subjection of labor. After World War II, as the Soviet social system was extended to the countries in eastern and central Europe which became its satellites, and to China and other Asiatic countries, the trade unions of those countries were also transformed into organs for the subordination of the working class.

By the middle of the 20th century, the trade union world was divided into two camps, reflecting the schism in the world between the two social systems represented by the capitalist powers and the Soviet Union. From the union in the capitalist world no influence extended into the realm of the Soviet unions; formal contact between the two trade-union worlds, established by their cohabitation in the World Federation of Trade Unions, which was established in 1945, was discontinued after the withdrawal of the unions of the capitalist world from the WFTU in 1949 and the establishment by them of the International Confederation of Free Trade Unions. From the Soviet world, ever since the establishment of the Soviet state in 1917, a continuous influence flowed by various channels into the capitalist world. Prior to World War II Communist influence in the capitalist trade-union world varied greatly, but was, on the whole, a secondary factor. After World War II, the Communist parties of a number of capitalist countries, notably Italy and France, gained control of the trade-union movements of those countries, thereby transforming the unions in those countries from organs serving the interests of labor—into coordinate instruments with the Communist parties and Soviet espionage agencies and diplomatic staffs, for the subversion of the capitalist social order and the eventual establishment of the Soviet social order.

The upshot of the deviation in function and of the great diversity in policy and structure among the unions of the world is the impossibility of formulating an analytical history of world trade unionism in terms of a single pattern of development. All the factors and influences which shape unionism are known. All are variable. The effect of each factor is manifested only in combination with other factors which augment, diminish, supplement, or offset its influence; and in each instance, whether it be a local trade union, an international union, a national federation, or an international confederation, the development of structure, policy, and function is the composite outcome of many

influences. Especially is this true with respect to national trade-union movements. Each resembles others in essential respects; yet each is unique. None is comparable with others; none is representative of all. Each, and therefore all, must be studied separately as a particular embodiment of common factors.

WORLD MEMBERSHIP

By 1950, more than 110,000,000 workers were organized in unions, and the number was increasing. From the following listing of the distribution of union membership, countries with less than 100,000 are omitted. All figures are rough approximations; some are incomplete. Fully half of all unionists were situated in the Soviet world, and more than half came within the direct reach of its influence.

Soviet Union	29,000,000	Brazil	500,000
United States	16,000,000	Portugal	500,000
Germany	9,750,000	North Korea	500,000
China	3,500,000	Pakistan	470,000
India	3,000,000	Norway	400,000
Poland	3,000,000	Argentina	400,000
Czechoslovakia	500,000	Peru	350,000
Mexico	500,000	Ireland	350,000
Australia	500,000	Bulgaria	350,000
Austria	300,000	Union of So. Af.	300,000
Rumania	1,300,000	South Korea*	250,000
Belgium	200,000	Finland	250,000
Netherlands	200,000	Colombia	200,000
Sweden	200,000	Ceylon	200,000
Canada	200,000	New Zealand	170,000
Hungary	900,000	Israel	170,000
Yugoslavia	650,000	Spain	160,000
Switzerland	600,000	Egypt	120,000
Uruguay	550,000	Philippines*	100,000
Cuba	500,000		

* In excess of figure show:

The principal federations were the anti-Soviet International Confederation of Free Trade Unions, claiming 48,000,000 members in more than 80 countries; the pro-Soviet World Federation of Trade Unions and its protégé, the Asian Federation of Labor, with a claimed membership in excess of 50,000,000; the counterpart of these federations in Latin America—the Inter-American Confederation of Workers, which reports a membership of 14,000,000, and the Latin American Confederation of Labor, supposed to have 4,000,000 members; and the International Federation of Christian Trade Unions, with a reported membership of about 3,000,000.

See EMPLOYEE REPRESENTATION; STRIKES AND LOCKOUTS; SABOTAGE; BLACK-LISTING; BOYCOTT; ARBITRATION, INDUSTRIAL; LABOR MOVEMENT IN AMERICA; KNIGHTS OF LABOR; AMERICAN FEDERATION OF LABOR; CONGRESS OF INDUSTRIAL ORGANIZATIONS; RAILWAY LABOR ORGANIZATIONS; INDUSTRIAL WORKERS OF THE WORLD; SOCIAL REFORM PROGRAMS AND MOVEMENTS; ANARCHISM; SYNDICALISM; SOCIALISM; COMMUNISM.

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THOMAS STAMM.

LABOR VOTE. See VOTE, VOTERS, VOTING.

LABORATORY (from the Medieval Latin *laboratorium*, a workshop). The word is used to denote any room or building devoted to experimental investigations in techniques and the sciences for the purpose of advancing man's knowledge of special applications of natural law or of human physiology and mentality. Laboratories have been introduced into educational institutions to teach scientific and technical knowledge by means of experiments. The term is also used to denote the workroom of a manufacturing chemist, or the testing-rooms of an industry. In early times the nature of the chemical work of making drugs and potions was more or less disguised by the priesthood who called the place where they were made simply a workshop. Out of these early laboratories grew those of the Middle Ages. In this later period they were devoted to astrology, the making of drugs, potions and charms, and to the search for the philosopher's stone by means of which it might be possible to change the baser metals into gold. Some of these laboratories were very important in that day, being patronized by the nobility or maintained at the public expense.

Among the first laboratories open to students were those of Purkinje, who established a physiological laboratory at Breslau in 1825, and the chemical laboratory of Baron von Liebig at the University of Giessen in the same year. The first physical laboratories for students were founded about 1846; one at Heidelberg, by Philipp Gustav Jolly, and one at the University of Glasgow by William Thomson—Lord Kelvin.

Among the great laboratories of the world may be noted that of the Royal Institution, established in 1800 by Count Rumford, which was to be devoted to the applied sciences, but which soon became the seat of great activity in researches in pure science, conducted by such men as Davy, Faraday and Tyndall. The Physikalische Reichsanstalt, in Charlottenburg, near Berlin, was a very famous laboratory where there were departments devoted to research in pure science, and other departments for the study of the application of science to industrial pursuits.

In 1875 a committee for the standardization of weights and measures, made up of representatives of 18 nations, was organized for the purpose of reproducing and furnishing inter-

national metric standards to the members. A laboratory for their manufacture and for research was established near Paris. Great Britain has placed with the Royal Society the control of its *National Physical Laboratory*, where standards of weights and measures are to be kept, duplicates made, instruments tested and research is to be carried on. In the United States the Smithsonian Institution (q.v.) was established in 1846. Many important lines of research have been developed there, out of some of which have grown up some governmental departments, as the United States Weather Bureau and the United States Fish Commission. The United States government has established, by act of Congress, approved 3 March 1901, a National Bureau of Standards, a suitable building and equipment also being provided. The buildings and equipment have been added to until there are over half a dozen well-appointed buildings in use. The bureau has the custody of the standards of weights and measures, and has power to manufacture duplicates, multiples and submultiples. It also has the power officially to test and calibrate physical and chemical apparatus and issue certificates for them. A great deal of work is done in standardizing and calibrating physical, chemical and technical apparatus and machines for educational institutions, manufacturing plants and various governmental departments. Tests of commercial products are carried out and standard specifications adopted, unifying and in many cases simplifying them. Researches in pure and applied sciences carried on have been of the greatest importance in technical and commercial work. Especially have important results been attained during the World War, in solving such problems as the production of optical glass, increasing the production of fuel for internal combustion engines and aid in the further development of wireless telegraphy and wireless telephony.

In practically all American institutions of learning laboratories for studying science by means of experiment and for research have been established. In many preparatory schools, and in an ever-increasing number of high schools, elementary laboratories are included for the study of physics, chemistry and biology. Chemical laboratories for educational purposes were introduced by the Rensselaer Polytechnic Institute and by the Massachusetts Institute of Technology.

Industrial Laboratories.—Laboratories for research and testing form an ever-increasing part of many industrial enterprises. Materials are treated either chemically or physically or both at various stages of the processes of manufacture, these tests often indicating the subsequent treatment of the products. Still another is the laboratory maintained by a large firm making paper from wood pulp. As an illustration of the gains made by such laboratories it may be remarked that much of what was formerly cast aside in the making of pulp paper is now manufactured into products which increase the profits of the business. In the paper manufacturer's laboratory there are not only machines for testing every possible quality of the paper, such as its ability to resist folding and creasing and exactly to measure the weight necessary to break it, but also a complete chemical laboratory, whose chemist, after

years of experimentation, has found a means of making from a by-product of the paper a variety of charcoal much needed in clarifying certain drugs for pharmaceutical and other purposes.

Many industries of to-day are based on processes devised and worked out in laboratories for research. Some examples are the great plants at Niagara Falls, where metallic aluminum, calcium carbide, sodium hydrate and many other compounds are made. The basis of the progress in applied electricity is research in physics and chemistry. In many lines of industry scientific research in public and private laboratories has made possible new and better processes.

Notable examples of such progress are the recent developments in X-ray theory and apparatus, both wireless telegraphy and telephony, new alloy steels, chemical processes and products. The laboratory work done in the educational and technical chemical laboratories during the World War aside from purely war work have been of inestimable value in making the United States independent of foreign countries for certain products in which this country was previously almost entirely dependent. In those countries where there is the greatest activity in research in sciences and its applications there is also the greatest industrial activity. And it may be expected with confidence that in view of recent developments that many more commercial laboratories will be established and a greater degree of co-operation will be developed between the industrial and great educational laboratories.

Biological Laboratory.—Research in the biological sciences has helped to a better understanding of life and to its prolongation. The causes of many infections and contagious diseases have been discovered and effective methods of prevention and of combating them have been found. The Pasteur institutes in many large cities all over the world are witnesses to these facts.

In psychology research and laboratory tests have led to a better understanding of the limitations and adaptability of the individual for various lines of work. This matter has been brought to the attention of the world very forcibly in choosing men for various activities during these times of change and the lessons so learned will not be lost in peace times.

A general outline and some of the details of construction, equipment and uses of a few of the most common types of laboratories found in educational institutions and in industrial laboratories of the present day are given below. Many laboratories where excellent work is being done are very much simpler than those described; and, on the other hand, some are much more elaborate in construction and equipment. Some features are common to them all, one of which is the lecture-room, where experimental demonstrations are given before many students at one time.

Louis Agassiz led the movement in the United States in the establishment of biological laboratories, by establishing a zoological laboratory at Harvard.

Agassiz also developed the modern marine laboratory which has led to the establishment of many such laboratories in all parts of the world. The researches in these laboratories have been of greatest value in the biological

sciences. Among the marine laboratories of the world must be enumerated the great laboratory established in 1872 by Dr. Anton Dohrn at Naples. Specialists from all parts of the world go to this laboratory to do research work. The United States Fish Commission has established two very important marine laboratories in the United States: one at Woods Hole, Mass., the other at Beaufort, N. C., in 1899. Woods Hole was the centre of activity in 1871 and again in 1875. The first building of the present fish culture and experiment station was completed in 1884. This laboratory has been open to voluntary investigators, tables being assigned to them. The investigators have numbered among them men from the principal universities of the country, and much valuable work both of economic and scientific value has been done there. The marine laboratory established at Beaufort, N. C., promises to be one of the greatest, if not the greatest, biological station in the world; larger than the one at Woods Hole or the one at Naples on the Mediterranean.

Other marine laboratories are the Chesapeake Zoological Laboratory of the Johns Hopkins University, the Hopkins Seaside Laboratory of the Leland Stanford Junior University in California and the Tufts College Laboratory at Harpswell, Me. Another great biological laboratory is that of the Carnegie Institution at Cold Spring Harbor.

Many special problems in biology, in medicine and other branches are studied in laboratories such as the Crocker Cancer Laboratory at Columbia University. Investigation into physiological processes in health and disease has been in late years so highly specialized that individual physicians are no longer able to follow them up, even in their own specialty, but now send specimens obtained from their patients to the larger laboratories. One of the most famous of the biological laboratories is that of the Rockefeller Institute for Medical Research, which was founded by John D. Rockefeller in 1901, situated at 66th street and the East River in New York City. This institution, endowed with nearly \$3,000,000, contains pathological, chemical, bacteriological, pharmacological, experimental biological and experimental surgical laboratories, a hospital and an animal house. Animals are bred and farm products are supplied from a farm belonging to the institute and situated at Clyde, N. J., and an additional biological laboratory is maintained at Woods Hole, Mass. The institute publishes its findings in various branches of research through the media of its *Journal of Experimental Medicine* and in *Studies and Monographs*, issued from time to time.

A second very important marine biological laboratory for research exists at Woods Hole, where scientists from many institutions congregate. This laboratory is devoted entirely to research. There are many other important biological stations along the Atlantic, Pacific and Gulf coasts and a few on the Great Lakes.

The special appliances necessary to meet the needs of marine laboratories are boats, both large and small, nets, apparatus for obtaining the vegetable as well as the animal life of the salt and fresh water bodies and aquariums.

The researches of Pasteur in France on

bacteria have led to the establishment of important bacteriological laboratories throughout the world. The universities and colleges in the United States have many laboratories devoted to teaching and investigation along the different groups of the biological sciences.

The botanical laboratory is devoted to the study of the life of plants and their classification according to their distinguishing characteristics and structure.

The laboratories for the whole group of biological sciences have much equipment in common. The laboratory rooms should be well lighted, preferably with north light and with window bars done away with as much as possible; the building should be situated so as to have a low horizon. This is important in microscopic and microphotographic work, in order to get a uniform lighting of the slide on the microscope stage. The rooms should be provided with tables, on which is placed a full equipment of reagents, staining and preserving solutions. Dissecting instruments are among the individual needs of the students. Microtomes are needed for cutting sections, to be mounted on slides for examination under the microscope. The photomicrographic camera aids very materially in the careful, systematic study of specimens. The negatives thus obtained are available for making lantern slides for projection purposes and for making enlarged photographs. In some lines of research work, as in bacteriology, culture media, in which the particular form of life may grow and multiply, may be used. Often the cultures must be kept for hours at a certain temperature, thus necessitating incubators, of which the temperature is regulated by thermostats. Frequently rooms are set apart for cultures. Dark rooms are essential for the development of negatives resulting from the photographic work.

Chemical Laboratory.—The chemical laboratory is one of the most important factors in the educational and industrial systems of our civilization. The rooms of the chemical laboratory should be well lighted and ventilated. Special lines of work should be isolated. The lecture-room for demonstration purposes should be much the same in its general features as the physical lecture-room (q.v.). The lecture-room should be supplied with different gases, including common illuminating gas, oxygen and hydrogen. The oxygen and hydrogen are generally supplied in heavy steel tanks under high pressure. A demonstration lantern should be conveniently placed. The table top should have one or two holes in it connected to the suction fan for carrying off fumes and gases, thus keeping them from being disseminated through the room.

The inorganic laboratories, for elementary purposes, may be divided into three principal divisions: first, that devoted to the study of the simple reactions by the beginner, who there learns experimentally what takes place in the simple reactions, as that of the production of hydrogen gas by pouring sulphuric acid on zinc, forming zinc sulphate and liberating the gas. The second division is that part devoted to qualitative analysis, where more complex reactions are studied and where the student learns to recognize and to test for the presence of the different elements. Under the third division is found quantitative analysis, which, as the name

implies, is devoted to the study of the quantitative relations of compounds.

The work in these three divisions leads up to the more complex work of organic chemistry and research work. The equipment of these laboratories will give a general outline of the whole. Wide top tables should be provided. The tops should be impervious to water and as little acted on by acids as possible. Alberene stone is excellent material for such purposes. A good construction is to have the tops slope a little from both sides to the centre line, where a trough is placed to carry off the wastes to the sewer. Racks for the storing of bottles containing reagents should be placed so as to be easily reached by the students from both sides of the table. Beneath the top should be drawers and shelving so subdivided that each student may keep his apparatus separate. The tables should be provided with gas and water, with plenty of taps and with electrical connections. Means should also be furnished for boiling under reduced pressure. For the experiments where noxious gases are given off, hoods should be provided, the bases being of the same material as the table tops, the sides and top of fixed glass with a glass window that may be opened in front. For ventilation within the hood there should be openings to a flue connected with a blower which produces a suction of the gases from the hood. One of the openings should be well toward the top and the other at the bottom of the hood. If artificial lighting is required it should be from above the glass top. Plenty of stop-cocks for gas, water and suction should be provided for each hood.

Among the independent rooms needed are those for the following purposes: A hydrogen sulphide plant is an absolute necessity, and it should be isolated to the extent of having a well-ventilated room of its own. It should, however, be situated as conveniently as possible to the main divisions of the laboratory. Sometimes it may be advantageous to pipe the gas to different rooms. Near the quantitative laboratory should be a balance-room well stocked with analytical balances supported on solid tables or wall brackets. A combustion-room and a furnace-room are often required. The furnace-room should be so located as to get a good draft or so as to be connected to a suction fan system.

The study of the spectrum of gases makes it necessary to have a good induction coil to produce a spark spectrum, which may be viewed by the eye, or which may be photographed. The range of temperatures at which chemical phenomena are now studied calls for very high and very low temperatures, which means that the electric furnace and a liquid air plant are often desirable. Apparatus for distillation under different pressures and for obtaining constant temperatures are very necessary in some phases of the work. The rooms for gas analysis should be so situated as to make it possible to have but small temperature fluctuations. A north exposure, thus getting rid of direct sunlight and yet getting good illumination, is preferable. The principal part of the equipment needed for gas analysis by the Hempel method includes gas buretts, to measure volumes, absorption pipettes for the different reagents used to absorb different gases, combustion pipettes and oxygen generators.

The physical chemistry laboratory requires much apparatus and equipment needed in physics and in the other divisions of chemical work, including analytical balances, thermometers, barometers, manometers, calorimeters, thermostats, motors, stirring gear, refractometers, spectrometers, apparatus for studying polarized light, ammeters, voltmeters, resistances, and many other pieces. Among the subjects studied in the student laboratory are density, viscosity, vapor pressure, boiling and freezing points, heats of fusion and vaporization, critical temperatures, pressures and volumes, heats of combustion, solubility and the various divisions of electrolysis and electro-chemistry.

Electrical Laboratory.—The student and investigator in the field of electricity should have a thorough grounding in general physics and physical laboratory methods. The student in the electrical laboratory becomes acquainted with the relations of electric currents, electromotive forces and resistances; and the production and transmission of electrical energy, electrical quantity, capacity, magnetism and the relations between electricity and magnetism. The laboratory should be of strong construction on account of the lines of shafting and the heavy machines used. In the general laboratory will be found for purposes of investigation dynamos of the various direct and alternating current types; direct and alternating current motors, the latter covering synchronous, two-phase and three-phase motors, induction motors and rotary converters. Portable and variable inductive and non-inductive resistances; portable and fixed instruments for measuring current, electrical pressure or potential and power should be plentifully supplied. The fixed machines, instruments, the private rooms and tables should have lines of wire connecting them with a central switchboard through which any desired grouping of stations may be made. Among the separate departments may be one for testing and studying transformers; one for investigating the magnetic properties of iron, steel and other metals; a potentiometer-room in which to test and calibrate the instruments used in electrical measurements. Some interesting and important parts of the work are the investigation of the resistance and strength of insulators and conductors; the study of condensers and their effect in a circuit; the study of self and mutual induction and the measurements of them. Separate rooms which can be made dark, the walls of which absorb as much light as possible, or which can be made any color desired by a proper arrangement of coverings, where work in lighting and photometry may be performed, are also important parts of the equipment of an electrical laboratory.

The electrical engineering student should find it possible to make tests in all lines of his profession, approximating, as nearly as possible, actual working conditions in the commercial world. In order to give the greatest usefulness to the laboratory, the equipment should be kept abreast with the advances in the best engineering practice.

Engineering Laboratory.—Engineering laboratories have been developed within the past 40 years along all lines of engineering and technical education. The divisions are many, but only a few of them will be considered here.

The electrical engineering laboratory has been discussed above under the head of *Electrical Laboratory*. Under the division of Mechanical Engineering may be placed railroad engineering, marine engineering and the like. Among the subdivisions under Civil Engineering are mining engineering, hydraulic engineering, sanitary engineering and bridge engineering, for all of which laboratories have been developed.

The laboratory should be a solid structure with massive foundations for the heavy machines used. Boiler-rooms, engine-rooms, material testing-rooms and general experimental rooms on mechanical devices, are the requisites. The boilers tested comprise fire-tube, water-tube and shell boilers. Tests are made of fuels, as to their steaming qualities, the ash and flue gases, by means of calorimeters, gas meters, thermometers, thermo-elements and balances. Engine tests may be made on many steam motors comprising steam turbines, simple slide valve, Corliss and compound engines of high and low pressure types. For these tests are needed steam gauges, thermometers, indicators communicating directly with the inside of the cylinders, together with "reducing motions" for obtaining automatic records of the steam pressure within the cylinders during a complete stroke, from which data may be obtained by means of which to compute the energy put into the engine; and dynamometers to measure the output in useful work.

Another department is devoted to internal combustion motors. Under this class are indeed hot air engines, oil and gas engines, which require dynamometers, gas meters and air measurers of the fuel supplied, and means for testing the products of combustion. In the mechanical laboratory, water motors, fans, blowers, air compressors, compressed air machines and tools, different methods of power transmission, as by shafting, gearing, belts, ropes and chains and the like, are studied. Measurements of the coefficients of friction of different substances are found, and the effects of lubrication by different substances are investigated. Lubricants are tested under various conditions, such as at various temperatures, pressures and in the presence of different vapors or gases. The testing of materials is common to mechanical and civil engineering laboratories. It will be outlined under the latter head.

In the civil engineering laboratories, calculating and measuring instruments are tested and calibrated. Among these instruments are transits and levels, and all instruments having graduated circles, cross-hairs and spirit levels; steel tapes; chains and bars for measuring lengths; chronometers for measuring time; barometers and thermometers. Here also is studied the magnetometer; and by means of it the strength of the horizontal component of the earth's magnetic field. The variation and dip of the earth field are also investigated. The "acceleration of gravity" is determined.

In the hydraulic division of these laboratories are studied the flow of water in pipes, "skin friction," the flow of water through different orifices under different conditions, the flow of water over weirs and its measurement. This is very important in irrigation.

The laboratory devoted to the testing of materials is a very important one in all engi-

neering work. All kinds of materials used in engineering work are tested. The apparatus required comprises machines for testing the resistance to compression, of tensile strength, of torsion and flexure of materials. Cements are tested for their resistance to tension and compression and for the length of time required for them to set. For the last test named, automatic apparatus has been devised which registers time and amount of "set." Forms in which to mold the briquettes, and water tanks in which to immerse them for setting, are among the required equipment. Tests on concretes are made in a similar manner. Abrasion machines are used to make tests on paving material and other material subject to wear.

Physical Laboratory.—The housing and equipment of a physical laboratory is of very great importance. The building in which the laboratory is to be located should be so situated as to reduce to a minimum all jar and tremor, and to do away with all outside magnetic disturbances, such as those due to electric car lines.

Many rooms are needed for special divisions of the work; such as constant temperature rooms, which require special precautions in design and construction and which are best situated below ground. Special rooms are demanded for radiometers, spectrometers, potentiometers and such other instruments as require constant conditions to ensure good results. Dark rooms are necessary for work in light, which includes experiments requiring diffraction gratings, photometers and the phenomena of light in general. Since photography has become of very great practical importance, fully equipped dark rooms are desired; also a skylight room where enlargements and reductions of negatives may be made, and lantern slides prepared. It should be possible to introduce sunlight into some of the rooms.

A lecture-room in which experimental demonstrations may be given is a necessity, and much attention should be given to its arrangement. The lecture-room should be well lighted but should be provided with arrangements for readily darkening it. The experimental lecture table should be placed so as to be easily seen from all parts of the room. This table should have water, gas, air blast, suction, water motors and other motors, sink and terminals for obtaining direct and alternating currents. A solid masonry pier upon which to set up delicate apparatus and that requiring no vibration should be provided. The table tops should be impervious to water and so far as possible acid-resisting.

An apparatus-room in which is kept demonstration apparatus should be situated conveniently to the lecture-room; general apparatus may also be kept there. The opening between the apparatus-room and the lecture-room should be large enough to admit the passage of large pieces of apparatus, and also to allow experiments to be set up on wheeled tables in the apparatus-room, then wheeled directly into the lecture room.

Separate rooms should be provided for research work. It is desirable that it be possible to connect some of the rooms in suites, and to provide dark rooms for some of the suites.

Research-rooms should contain water and gas, both ordinary illuminating and acetylene

gas. They should have electrical connections to a central switchboard sufficient to obtain various types of current at one time. The floors of the building should be solid. Stone tables built in the walls form good supports for instruments, but there should be provided in some cases stone piers with independent foundations.

The general laboratories should have plenty of light and should be provided with separate rooms for some classes of work, as in light and sound, where it is often necessary to have darkened rooms. A heat bench or table should be provided; it should have an impervious top with enough pitch to drain into a central trough or hole to conduct away the waste. A rack with hooks above the bench, from which to suspend thermometers, is convenient. The rooms should be well supplied with tables, and along the walls stone shelving built in the walls will be found useful. The dirt incident to primary batteries may be concentrated if all the cells be kept together, their terminals leading to a switchboard to which are connected the terminals of lines leading to the various stations in the rooms.

The laboratory should also have storage batteries, and, if necessary, have its own dynamos in order to procure direct and alternating currents. An acetylene gas plant, and a compressor and liquefier for obtaining liquid air and other gases, are becoming necessary parts of the general equipment of a physical laboratory. A plant for the production of oxygen and hydrogen is also often desirable. A workshop in which to repair and build apparatus is a great convenience. The wiring and plumbing should be open and accessible as possible. All dark rooms as well as other rooms should be well ventilated, as it is often imperative for an observer to be confined in a room for hours at a time. Further reference to physical laboratory equipment will be found under the head of *Electrical Laboratory*.

Psychological Laboratory.—Since the establishment of the first psychological laboratory in Leipzig in 1875, by Wilhelm Wundt, where one room was devoted to apparatus and research, the development of the psychological laboratory has been rapid. One of Wundt's first students, G. Stanley Hall, established the first psychological laboratory in America at Johns Hopkins University in 1881, since which time many others have been started in the United States and foreign countries, including Japan.

The requirements of the psychological laboratory have increased very rapidly with the development of the subject, until its housing and equipment has become a problem of great importance and interest. Many rooms and much equipment are now required for a detailed study of the various expressions of conscious mentality. Beside the rooms necessary in teaching psychology by means of experiments, other rooms for research are needed. Quiet and relaxation being often necessary, it is important so to arrange the rooms that the work of one student will in no way interfere with that of another student. The separate rooms should be provided with gas, electric lights and water. Where absolute quiet is required, piping of all kinds should be excluded, the heating being done by indirect radiation if necessary, and only incandescent electric lighting being

used. The rooms should be wired for electrical intercommunication between those which may likely be desired to be used in suites where, as is frequently the case, the experimenter must be in one room and the "subject" in the other. They should also have wires leading to the rooms where chronometers and electrical recording devices are located.

For the study of the sensations of light and the eye, its capacity and limitations suites of rooms are desirable in many instances. These rooms should be capable of being either well lighted or darkened to any desired degree. The equipment of this part of the laboratory includes models of the eye and the muscles governing its movements, sectional models; apparatus for studying color sensations, color mixing, color blindness, contrast, brightness independent of the color sensation; apparatus for studying optical illusions, the sensitiveness of the retina at different points, the sensitiveness of the eye to changes in position, the sense of location and the imperfections of the eye; and apparatus for studying reactions and reaction times.

The sensation of sound requires isolated rooms where the noises produced may not reach other parts of the laboratory, and for certain parts of the work rooms that are sound and light proof. In this part of the laboratory the sensitiveness, range and analyzing power of the ear are studied. The equipment for the work in sound comprises models of the ear; instruments for producing sound, such as tuning forks, sirens, organ pipes and other sources of vibrations; and resonators for analyzing complex sounds.

Other rooms are needed for studying the sense of heat and cold, pressure, pain and the locations of the various end organs. The apparatus necessary is that required to produce the corresponding sensations. The effects of different sensations on the respiratory organs and heart action is another subject for investigation. Other parts of the laboratory are devoted to the senses of taste and smell. The equipment comprises the substances with which to test the various parts of the tongue, and also substances to produce different odors.

An essential feature of the psychological laboratory is a workshop where the many special forms of apparatus may be made, which are necessary to be used in the ever-changing problems which the scientific study of the conscious mind presents. Such a workshop contains a fairly complete equipment for both wood and metal working with a plentiful supply of power for running the machines.

Among the special pieces of apparatus necessary may be mentioned the chronometer, the chronograph, electrically driven tuning-forks, sources of mechanical and electrical energy and induction coils.

Aeronautical Laboratories.—The Central Establishment for Military Aeronautics at Chalais-Meudon near Paris led the way for aeronautical laboratories in 1884. A second was that of G. Eiffel, and a third that of de la Meurthe at Saint Cyr—the Aerotechnical Institute of the University of Paris. The Langley Aerodynamical Laboratory was opened in 1913. Other aeronautical laboratories which have been very productive are those at Göttingen, the English National Physical Laboratory, and the Bureau of Standards at Washington.

In these laboratories there are wind-tunnels specially constructed to give uniform wind streams at various velocities. In connection with these tunnels there are specially constructed balances to measure the lift and drag on wing surfaces, the resistances of parts and the forces on various shapes, and the retarding forces on airplanes as a whole. One very important laboratory established at the Bureau of Standards in 1917 is that for testing engines at reduced atmospheric pressures and the corresponding reduced temperatures simulating conditions for varying altitudes.

Municipal laboratories for the standardization of supplies bought by cities, such as asphalt, fire hose, food for various municipal institutions and many other commodities are maintained by several cities. These laboratories not only test what is supplied for the city's use, acquired through the purchasing departments, but also enable their agents to form more accurate specifications for further supplies. Water, coal, gas and other things for public use are submitted to regular examinations in such laboratories.

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LABORDE, la'bôrd', **Léon Emmanuel Simon Joseph**, COUNT DE, French archaeologist and author: b. Paris, 12 June 1807; d. there, 25 March 1869. He accompanied his father, Alexander Louis Joseph on a journey to the Orient concerning which he wrote 'Voyage dans l'Arabie Pétrée' (Paris 1830-33), and was appointed secretary of legation at Rome (1828) and became (1831) Talleyrand's secretary at London, to fill later the same position at The Hague and Cassel. He was elected a member of the Academy in 1842. He became later curator of modern sculpture at the Louvre and (1856) director of the Imperial archives and was made a senator. Notable among his works are 'Histoire de la Gravure en manière noire' (1839); 'Voyage en Orient: Asie-Mineure et Syrie' (1837-62), with 180 plates; 'Le Parthénon' (1854), with 30 plates, but unfinished; 'De l'Union des Arts et de l'Industrie' (1856). He also wrote a number of works on the Paris libraries and monuments, etc.

LABORI, Fernand Gustave Gaston, fêr-nân gûs-täv gäs-tôn lä-bô-rê, French lawyer and editor: b. Rheims, 18 April 1860; d. 14 March 1917. He studied at the Rheims Lycée and for two years in Germany and England; took his degrees in the law faculty of Paris in 1881 and 1883, and was enrolled at the bar of the Court of Appeals in 1884; was secretary of the conference of advocates in 1887-88; took

a high professional rank; and was especially prominent as counsel for the defense in notable cases, as the libel action by Compayré against Numa Gilly, and the trials of the anarchists Duval and Vaillant. In 1898 he was chosen deputy for Fontainebleau. In the same year he defended Emile Zola (q.v.), accused of libeling the army and the President of the republic in the letter concerning the Dreyfus case. He was junior counsel to Demange in the defense of Dreyfus at the trial at Rennes in 1899, and thoroughly confuted his opponents by his logic and his brilliant cross-questioning. He did not make the final plea, but his 'Notes de Plaiderie' were published in the 'Compte-rendu Sténographique In-extenso du Procès Dreyfus a Rennes.' On 14 August, while on his way to the court, he was dangerously wounded by a revolver bullet fired by a fanatic or mercenary. He was shortly enabled, however, to continue the case. In 1903 he defended the Humbert swindlers (see HUMBERT SWINDLE) and in 1914 defended Madame Caillaux (see CAILLAUX; CALMETTE) and secured her acquittal. He was editor-in-chief of the judicial daily *La Gazette du Palais* in 1888-94; established the *Revue du Palais* and *Grande Revue* in 1897; and is joint author of 'Repertoire encyclopédique de Droit Français,' in 12 volumes (1898). See DREYFUS, ALFRED.

LABOUCHERE, lä-boo-shär, **Henry Du Pré**, English politician and editor: b. London, 9 Nov. 1831; d. Florence, Italy, 15 Jan. 1912. He was of Huguenot origin, was educated at Eton and Trinity College, Cambridge; was in the British diplomatic service in 1854-64, being at one time a member of the British legation at Washington; in 1865-66 sat in Parliament for Windsor; was then unseated on petition; but represented Middlesex in 1867-68 and Northampton in 1880-1906. During his parliamentary career he strongly advocated Home Rule. He was at one time part proprietor of the London *Daily News*, to which he contributed letters from Paris during the siege (1870-71). In 1876 he established and became editor of *Truth*, a weekly journal, in which he expressed his opinions with great vigor. The denunciations of all manner of public frauds in the columns of *Truth* brought him frequently into the law courts for libel, and though he almost invariably won his cases, he frequently lost heavily on them through being unable to recover costs from the unsuccessful litigants. He was an extreme Radical in politics, was a strong opponent of the South African War of 1899-1902, a man of cosmopolitan sympathies, and on account of his wit and incisiveness popular with all parties in the House of Commons.

LABOULAYE, Edouard René Lefebvre de, ä-doo-är rê-nä le-fävr lä-boo-lä, French publicist and jurist: b. Paris, 18 Jan. 1811; d. there, 23 May 1883. He studied law and in 1842 he joined the Paris bar. He was a close student of the great German writers on jurisprudence, whose works and researches he introduced to his countrymen in a series of able essays, written in an admirable style. The Academy of Inscriptions and Belles-Lettres crowned his 'Histoire du Droit de Propriété Foncière' (1839), and elected him to its membership in 1845. An 'Essai sur la Vie et les Ouvrages de Savigny' (1840), was followed by 'Recherches

sur la condition civile et politique des femmes" (1843). In 1849 he was appointed professor of comparative legislation at the Collège de France in Paris. He vigorously opposed the Second Empire, and ridiculed it in a thinly disguised form in *Paris en Amérique* (1863) and *Le Prince Caniche* (1868), two novels which were very popular. After the fall of the empire, Laboulaye was elected a deputy from Paris in 1871, and in 1880 became a senator for life. Others of his works are *Histoire des États-Unis d'Amérique* (1854); *Études contemporaines sur l'Allemagne et les pays slaves* (1854); *Souvenirs d'un voyageur* (1857); *Liberté religieuse* (1858); *L'État et ses limites* (1863); *Contes bleus* (1863), a series of admirably told tales, which were supplemented by *Nouveaux contes bleus* (1866).

LABRADOR, the name applied to that portion of the peninsula on the northeast coast of Canada forming part of the Province of Newfoundland. It is separated from the island of Newfoundland by the Strait of Belle Isle on its southeast coast. Its northernmost promontory juts into Hudson Strait; its east boundary is the Atlantic Ocean; while its south and west boundaries push wedgelike into the Province of Quebec. Prior to its inclusion with the island of Newfoundland, in 1949, as a part of the new tenth province of Canada, Labrador denoted the whole peninsula lying between Ungava Bay, in Hudson Strait, on the north, and the St. Lawrence River on the south. The changes in the territorial connotations and control of this region, from whence evolved its present status, are explained below (see section on *History*).

The name Labrador derives from the Portuguese word *lavrador*, meaning yeoman farmer, and its first application to the peninsula was made by John Cabot. In the early spring of 1498, on the eve of his second westward expedition which would take him to Greenland and the North American mainland, Cabot made a trip to Spain and Portugal. At Lisbon he conferred with a Portuguese mariner, João Fernandes, known as "Lavrador" because he owned a farm on Terceira in the Azores. Fernandes having described land discovered on a voyage west of Iceland, Cabot induced him to join his expedition. Accordingly, when Cabot made his landfall on Greenland he named it Labrador in compliment to Fernandes, and, supposing Davis Strait, separating Greenland from the continent, was simply a gulf, he saw no reason for giving another name to the peninsula.

The Land.—Labrador forms part of the Canadian Shield and is a great plateau of from 1,000 to 3,000 feet in height. The surface is undulating, with low ridges rising some 500 feet above the general level, and forms a barren mosaic of bare rocks, swamp and innumerable lakes. The plateau consists of ancient crystalline and igneous rocks and is also a potential source of many valuable minerals. Although the area has never been thoroughly surveyed, enormous reserves of high-grade iron ore have been discovered along the Labrador-Quebec boundary, which have been mapped out by the Labrador Mining and Exploration Company, a subsidiary of the Hollinger mining interests. Geological survey was commenced in 1938 over an area of 20,000 square miles in the Labrador territory and over an area of 3,900 square miles on the Quebec side, and huge deposits were found on both sides

of the border. The two camps cover iron formation for a length of 2.5 miles, and proven extent of this field places it among the greatest iron ore fields of the world. Its extent is not known, though the proven ore content is calculated to exceed 400,000,000 long tons in about 40 deposits. About two thirds of the discovery is located in Quebec territory and the remainder in Labrador. For the preliminary mining operations equipment was flown in as ground communications yet exist. In order to develop the area, it is proposed to build a road and a railway from the town of Seven Islands on the north shore of the St. Lawrence River to the lode zone near Burnt Creek, where the main camp for the five principal deposits is situated. In addition to iron ore, deposits of ilmenite, copper, zinc, nickel, mica, graphite and pyrite have been found.

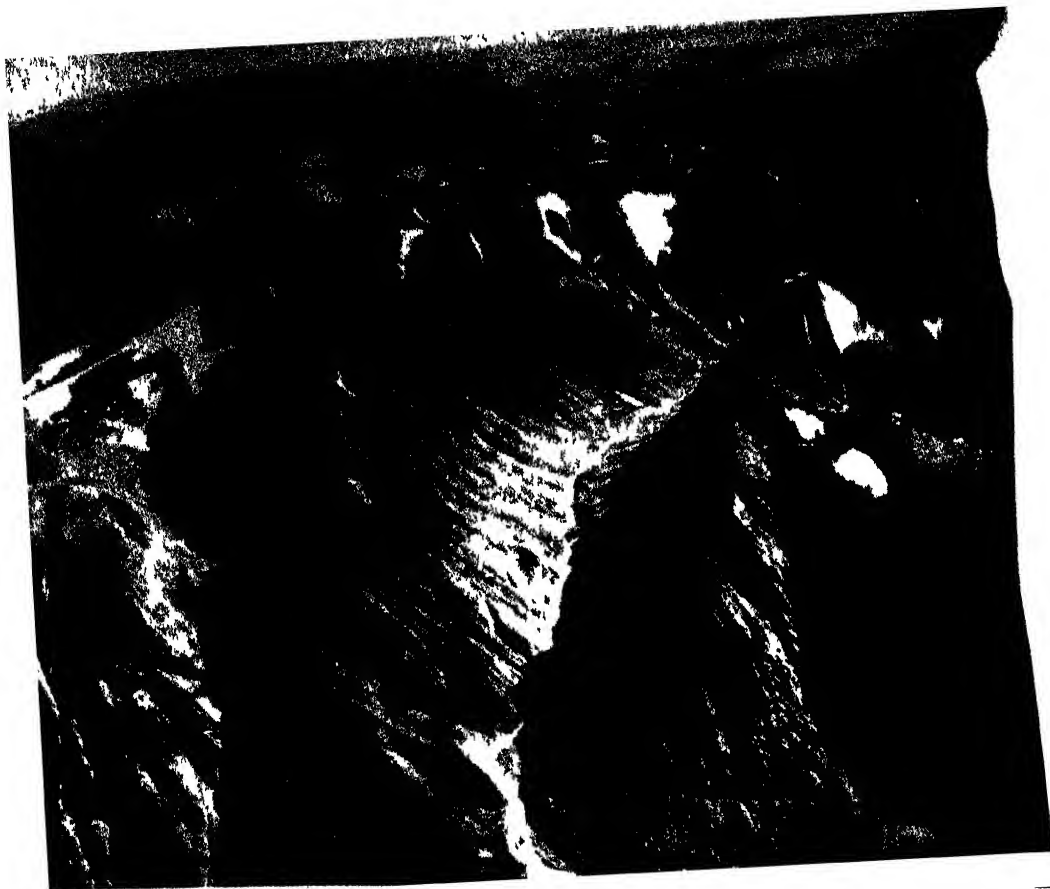
In the extreme north the plateau is dominated by the Torngat Mountains, a lofty range of summits of which rise to over 5,000 feet. The coastline, bold and rugged, has promontories rising up to 3,000 feet directly from the sea. Most of the river valleys are heavily forested but a survey has been carried out to estimate the extent and value of the timber stands. The rivers are a potential source of wealth having many falls suitable for the development of hydroelectric power. The greatest of these is on the Hamilton River at Grand Falls, 200 feet wide and 310 feet high, or about twice as high as Niagara Fall. The drop in the 16-mile Grand Falls section amounts to 1,038 feet, and the drainage area above the falls alone is estimated to allow for an installation of up to 4,750,000 horsepower. Muskrat Falls has a potential capacity of 113,000 horsepower, and the drop between Grand Falls and Muskrat Falls another 1,000,000 horsepower.

Climate.—Although Labrador lies in the same latitude as the United Kingdom it has an extremely rigorous climate. The temperature may range from 60°F below zero to 60°F above. The summer is short, and snow usually covers the ground from September to June. In winter the whole coast line is blocked by ice.

Vegetation.—Information regarding the soil and vegetation of Labrador is very limited. Most of the coastal areas are barren and rocky and north of Nain this treeless zone extends far inland. However, mature forests, chiefly black spruce, have been noted along many of the river valleys, particularly around Hamilton River and its inlets.

Population.—The resident population of Labrador was computed in 1945 to be 5,525 including 700 Eskimos, 275 Indians, and 153 people of mixed Indian (or Eskimo) and European stock. The white settlers and the Eskimos live mainly on the coast in small settlements, the Indians are nomadic and live by hunting and trapping in the interior. The largest single community in Labrador is the air base at Goose Bay, 100 miles inland at the south of Lake Melville (Hamilton Inlet). The cod and salmon fisheries of the Atlantic coast provide the chief means of livelihood and income for the resident population of Labrador, with the fur catch second in importance. The furs are sold mostly through the provincial government and to the Hudson's Bay Company, which maintains posts at Northwest River and Cartwright.

Health Services.—Health services in Labrador are provided almost entirely by the Inter-



The Torngai Range in north central Labrador reaches heights of 5,000 feet.

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The Unknown Falls located at the junction of the Unknown and Hamilton

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LABRADOR



Eskimos in their kayaks along the coast.

© Philip Mendel



The desolate fishing village of Turnavik.

© Philip Mendel

International Grenfell Association, which maintains four nursing stations on the coast and three 25-bed hospitals, and operates a small hospital ship. These services cost about \$92,000 annually, and the grant is paid by the provincial government. Since World War II the Royal Canadian Air Force Hospital at Goose Bay has been available to people all along the coast, when other help is out of reach, and mercy flights to bring the sick to it are often made. The general health of Labrador is low and tuberculosis is prevalent.

Education.—Education in Labrador is carried on, as elsewhere in Newfoundland, in denominational schools maintained by government grants under government supervision. In addition, the International Grenfell Association operates boarding and day schools in connection with its missions at Cartwright, Northwest River and St. Mary's River.

History.—It seems to be fairly well established that as early as 1000 A.D. Norse vikings from Greenland, under Leif Ericson, landed somewhere along the coast of Labrador. The visits of these Norse adventurers had no direct tangible results, and the beginning of the 16th century found Canada still a vast virgin territory unexplored except by the aborigines who wandered over its plains and mountains.

The real discoverer of Labrador is acknowledged to be John Cabot who, on his second transatlantic voyage from England in 1498, cruised along the Labrador coast. It is only in comparatively recent years, however, that the coast of Labrador has been mapped to any accurate degree, through surveys conducted by the British Admiralty and the Hudson's Bay Company. The early navigators and explorers did little to promote occupation or settlement in this barren coastal area, and for many years the interior of Labrador continued to be a terra incognita inhabited only by nomadic tribes of Indians and Eskimos.

Historically, the control of the Labrador peninsula falls into three stages: *first*, from 1498 to 1763, when it was considered part of the Province of Lower Canada, the portion of New France that later became the Province of Quebec; *second*, from 1763 to 1927, the period of conflict between Quebec and Newfoundland—the Labrador Boundary Dispute; and *third*, after 1927, when Labrador entered on the process of becoming an integral part of the Province of Newfoundland.

Up to 1763, therefore, Labrador was regarded as being territorially part of the Province of Quebec, stretching eastward to the Atlantic Ocean, except for a narrow strip about three miles in depth along the coastal fringe that was officially acknowledged to belong to Newfoundland by prescriptive right. The Treaty of Paris, in 1763, defined the boundaries of Quebec, but a royal proclamation of the same year placed the coastal area east of a line from River St. John to Hudson Strait under the jurisdiction of Newfoundland. In 1774, however, all the territory claimed to Newfoundland in the foregoing proclamation was taken away from her and granted officially for the first time to the Province of Quebec. This act of 1774 was known as the Quebec Act and it became the basic law for the Province defined therein as the Province of Quebec. It included the French settlements along the St. Lawrence River and the eastern section of Labrador to the Atlantic. However, in 1809, another

royal proclamation was issued, whereby all this territory, except Magdalen Island, was re-annexed to Newfoundland. In 1825, yet another change was made. By an act of that year, a portion of the St. Lawrence River coastline of Labrador, extending eastward from River St. John to Blanc Sablon, a distance of 150 miles, was taken from Newfoundland and restored to Quebec. The jurisdiction of Newfoundland then extended along the Atlantic coast line from Blanc Sablon, in the Strait of Belle Isle, north to Cape Chidley, jutting into Hudson Strait. Newfoundland's right to jurisdiction, express or implied, over the portion of Labrador restored to her since 1809 was not questioned critically until 1900, when disagreement came to the surface as to Newfoundland's sphere of influence. This open disagreement led to what was thereafter called the Labrador Boundary Dispute. Year after year saw fruitless discussions between the two countries. No mutual understanding could be reached as to definition of boundaries. The boundary limits set forth in the various acts and proclamations already promulgated were so vague and indeterminate and capable of such widely differing interpretations that neither side could agree upon a settlement satisfactory to both parties. Ultimately, in 1922, both countries agreed on the final terms of reference to be submitted to the Judicial Committee of the Privy Council of the House of Lords in England—the final court of appeal for the settlement of disputes between overseas dominions of the British Commonwealth. In 1926 the case was submitted and on March 1, 1927, the judgment of the Privy Council was announced, upholding, almost in its entirety, the claim of Newfoundland. By this award, some 117,000 square miles of Labrador became definitely Newfoundland territory, with its greatest depth inland extending westward for about 400 miles.

From 1927 to 1949, the newly acquired territory was regarded more or less as a dependency of Newfoundland. It was not until 1945, when the discussions began that eventuated in the admission of Newfoundland as the new tenth province of Canada in 1949, that Labrador was granted political recognition in the Newfoundland Assembly for the first time. When the Province of Newfoundland was established, Labrador became an integral political unit with representation in the provincial Parliament.

R. H. TAIT,

Attaché, Canadian Consulate General, Boston.

LABRADOR DUCK, a rather small, black-and-white sea duck (*Camptorhynchus labradorius*), now extinct. It was allied to the eider ducks. It bred in Labrador and migrated in winter as far south as Chesapeake Bay, but was never very numerous and became extinct about 1875, leaving only some 35 specimen skins in the museums of the world. Its extinction seems not to have been due to excessive shooting or to disturbance of breeding places; rather, the race seems to have been waning, and an epidemic of disease or some weather disaster destroying many eggs and young may have been a final blow.

LABRADOR TEA, a kind of evergreen shrub (*Ledum groenlandicum*) growing in the northern latitudes of America and Europe, having alternate entire leaves clothed underneath with a rust-colored wool and producing hand-

some, white flowers in early summer. Labrador tea may also include the similar *Ledum palustre*, more generally called marsh tea or wild rosemary. The narrow leaves, which are fragrant when crushed, have been used as substitutes for tea, and were so used by Sir John Franklin in his Arctic expedition of 1819–1822. They possess narcotic properties, render beer heady and are used in Russia in the manufacture of leather, yielding an oil known to druggists as ledum oil.

LABRADORITE, a plagioclase feldspar of the albite-anorthite series, corresponding chiefly to $Ab_{10}An_{90}$. (See FELDSPARS.) It is, therefore, a silicate of aluminum, calcium and sodium. It has a hardness of 5 to 6 and a specific gravity of 2.73. It ordinarily occurs in cleavable or granular masses, or as an essential constituent of certain basic eruptive rocks, such as norite, gabbro, diabase, basalt, dolerite or andesite. In these it is associated with some member of the pyroxene or amphibole groups. Labradorite abounds in the Adirondacks, but its type locality is along the coast of Labrador, where it occurs in pure masses of enormous size.

LABRIDAE, a family of marine fishes, the wrasses, representing the highly specialized sub-order Pharyngognathi by a large number of beautiful and useful species inhabiting all the warmer seas, and traceable as far back as the Eocene period. These are brilliantly colored fishes, usually elongate in form and of large size, with cycloid scales and thick fleshy lips. There are powerful teeth on the margins of the jaws, but none on the palate; while the united lower pharyngeals are much thickened and form a plate beset with rounded, rarely sharply pointed, grinding-teeth. The upper pharyngeals are usually separate, bearing similar teeth. Jordan enumerates 60 genera and 450 species, "chiefly of the tropical seas, living among rocks or kelp." The type genus *Labrus* is almost wholly European. The principal genera represented in American waters are *Tautoglabrus adspersus* (cunners), *Tautoga onitis* (tautogs), *Harpe rufa* (ladyfishes), *Pimelometopon pulcher* (fatheads), and *Iridio* (doncellas). Parrot fishes, of the family Scaridae, are allied.

LABUAN, là-bōō-än', island, North Borneo, Malay Archipelago, situated 6 miles off the northwest coast of Borneo, outside Brunei Bay. Its greatest length is about 12 miles; greatest width 7 miles; area 35 square miles. The terrain is mainly low and marshy, and the climate is hot and humid, there being an annual rainfall of about 134 inches. There is a good harbor at Victoria, the capital, on the southeast side. The chief products are rice, rubber, sago, copra, livestock and fruits; much coal was formerly mined. The island was ceded to Great Britain by the sultan of Brunei in 1846; was administered by British North Borneo, 1889–1905; by the Straits Settlements, 1905–1946 (incorporated as part of Singapore, 1907–1912); occupied by Japanese forces, Jan. 20, 1942–Sept. 10, 1945; rejoined to North Borneo in 1946. The settlement also includes 7 smaller islands. The population is about one third Chinese, the rest Malay. The 1947 population estimate was 9,253.

LABURNUM, là-búr'nũm, a genus of trees and shrubs (also called GOLDEN CHAIN or BEAN

TREE) of the pea family (Leguminosae), all parts of which are poisonous to some animals. They are natives of southern Europe and western Asia, and are characterized by trifoliate leaves and brilliant yellow blossoms in pendulous many-flowered racemes produced during late spring and early summer. The larger species yield a very hard, heavy, tough, fine-grained, dark green or brown wood, which can be highly polished and is valued for inlaying, cabinet work, and turning. The species are also prized for ornamental planting in shrubberies, not only for their flowers, but also for their glossy foliage, which remains green until late in the autumn. No part of the plant is relished by insects, and all parts, but particularly the seeds, are poisonous to cattle. Nevertheless the young stems are greedily eaten by rabbits and hares, and may thus be made to serve as a sacrificial protection to other shrubbery. The best-known species, probably, is the English laburnum (*Laburnum anagyroides*), which sometimes attains a height of 40 feet but usually not more than 20 feet. It is hardy nearly as far north as Massachusetts. The Scotch laburnum (*L. alpinum*) is hardier, more erect and rigid, bears broader leaves and much longer and slenderer racemes of dark yellow flowers, and continues in blossom about two weeks later than the preceding. The most plentiful in the American nursery trade is the hybrid, *L. Watererii*.

LABYRINTH, a structure having many intricate, winding passages; specifically, the legendary labyrinth of Crete, out of which no one could find his way, but became the prey of the Minotaur. This Greek legend has been interpreted as a sun-myth, and in various other ways, but excavations in Crete since 1900 have shown its foundation in fact, and have localized the labyrinth beyond reasonable doubt in the ruined "palace" of the Minoan kingdom at Knossos, near Candia. Minos may probably be regarded as a title, like Pharaoh or Caesar, for a line of rulers; but the legend of the Minotaur seems to refer to an individual, Minos, one of the sea-kings of Crete, whose period was about 2000 B.C. This king's son, according to the legend, went to Athens to contend in the games, and becoming victor was murdered by direction of the Athenian king, Aegeus. Thereupon Minos sent a fleet which subjugated Athens. One condition of the peace was that thereafter, in every ninth year seven youths and seven maidens should be sent to Crete by Athens, to become the prey of the Minotaur—a monster half human, half bull. When the second time for this ghastly tribute arrived, Theseus, a hero of great prowess, volunteered to go. Arrived in Crete, he and his companions were immured in a great prison—the Labyrinth; but Ariadne, the daughter of Minos, enamored of Theseus, gave him a sword with which to kill the Minotaur, and a thread to unwind as he was led into the prison-maze, the means of which he could find his way out. The plan succeeded. Theseus and his fellow captives escaped, and the tribute ceased.

When the royal house at Knossos came to be excavated, first by A. J. Evans in 1900–1901, it was found, "with its long corridors and repeated succession of blind galleries, its tortuous passages and spacious underground conduits, its bewildering system of small chambers that it does, in fact, present many of the characteristics of a maze. Throughout the ruins

is and all other Minoan buildings, the design called the "double ax" is very prominent in decoration; and it is known that this symbol of divinity and royalty was named "labrys." The coincidence of this term with "labyrinth," together with other evidences of the connection of ideas, makes indubitable in the minds of antiquaries that the labyrinth of the legend was this very building. The chief god of the Minoan cult was represented as a bull. Once every nine years the reigning king was obliged to go into the Dictæan Cave (near the present town Lyttos) and renew communication with heaven. It is thought probable that human sacrifices may have been offered to the divinity in the cave on these occasions; that probably captives would be slain rather than citizens; and that the Athenian youths were destined to his sacrifice. Another theory is that vigorous war-captives were reserved for the national sport of the bull-ring, in which an athlete seized by the horns a charging bull, then skillfully vaulted to safety over the animal's back. Both men and women acted in this dangerous "bull-grappling"; and captives were probably kept and trained as toreadors for the amusement of the populace.

A vast and wonderful temple in Egypt, constructed by Amenemhat III at Hawara, about the time when the Minoan kingdom was in the height of its power, came to be called Labyrinth by the time Herodotus visited it, evidently in allusion to the similarly vast and complicated edifice at Knossos. More recent labyrinths are small, and often merely ornamental in their purpose. That at Clusium, in Italy, was erected by the Etruscans, according to Varro, for the sepulchre of King Porserna. Imitations of labyrinths, called mazes, were once fashionable in gardening. They were made of hedges; the best known is that at Hampton Court, near London. Consult for the Cretan labyrinth, besides the reports of exploration, Mosso, 'Nu Palaces of Crete'; Baikie, 'Nu Sea-Kings of Crete' (London 1913).

LABYRINTH, The. In 'The Labyrinth' (Le Dédale'), played in 1903, Paul Hervieu, the most logical and abstract of contemporary French dramatists, has developed a theme suggested five years earlier by Brieux in 'The Adieu' ('Le Berceau'). What, both writers ask, will be the results of divorce and remarriage when a wife meets again her first husband at the sick bed of their child? Will she revert to the first husband or remain true to the second? Will the husbands contend to the death or be reconciled? According to both playwrights, the wife's reversion to the father of her child is inevitable, but Hervieu has sharpened the conflict and given it a tragic conclusion. Marianne, having divorced her peramental Max, has married the brusque correct Guillaume. Max resents the rigorous education proposed for his son by Guillaume, and Marianne, to avoid legal complications, agrees that the boy shall visit his father. During this visit, little Louis falls ill, and Marianne, summoned to attend him, is thrown daily into a closest companionship with her former husband. In their mutual relief after an agony of anxiety, they forgot everything except their primal love. When Marianne confesses her love to her parents and to Guillaume, the

latter is enraged, but her mother excuses her deed as only natural. Since divorce is religiously unlawful, Marianne has never been truly wedded to her second husband. Guillaume is now ready to renounce her, upon condition that Max will do as much. But Max, refusing, taunts his rival; and, as the two men clinch, they fall from a cliff into the Rhone. Although the play is strongly emotional in its crises, it is little more than the illustration of an idea, every word and scene being nicely adapted to that end. Its characters live only to confirm the playwright's thesis. The piece was played in English in 1905; it may be read in the translation of B. H. Clark and L. MacClintock, published in 1913.

FRANK W. CHANDLER.

LABYRINTHODONTA, or **STEGOCEPHALI**, a group of primitive four-footed animals, forerunners of modern amphibians and reptiles, whose remains are found fossil in Peruvian, Carboniferous and Triassic strata, and which are the oldest known lung-breathing terrestrial quadrupeds. They were first discovered through finding their footprints imprinted in the Triassic rocks (Keuper beds) of Germany, long before the actual fossilized remains were brought to light. The footprints were described at first as those of a hypothetical form to which the name *Cheirotherium* ("hand beast") was given. As geological science and research progressed, the remains of the labyrinthodonts were discovered, when a comparison of their structure with the footprints showed that some of the latter were made by these creatures; many of the tracks, however, are unidentified. Later, when a great variety of related remains had been discovered, the term *Labyrinthodonta*, which relates to the curious "labyrinthine" infoldings of the enamel-wall of the teeth, was restricted to a single group or suborder (also called *Stereospondyli*) within the general amphibian order *Stegocephalia*. This suborder contains highly developed and mostly large forms, characterized by the complication in tooth structure above mentioned, and by co-ordinate anatomical distinctions. The principal genera are *Laxomma*, *Trematosaurus*, *Metopias*, *Capitosaurus*, *Mastodonsaurus* and *Labyrinthodon*, the last including the most recent forms of the Upper Trias, at the close of which period the group appears to have become extinct. See **STEGOCEPHALIA**.

LAC is the product of one of the scale-insects (*Coccus*, or *Tachardia*, *lacca*) of the family *Coccidae*, which is the source of an important Oriental industry. This species, like other scale-insects, multiplies with amazing rapidity, and feeds in compact colonies of tens of thousands, carrying the twigs of certain trees, especially the banyan or "religious" fig and related species of Ficus, the dhak (*Butea frondosa*) and some other trees in India and Assam, and on privet trees in Yunnan and Szchuen provinces in southwestern China. Inserting their beaks into the bark females of these insects suck the sap, a large part of which passes out as excrement, transformed into a sort of resin that accumulates over the insect's back and forms the "scale." The scales of the crowded insects coalesce at their edges into a continuous layer over the slender branch on which they are feeding, and such a branch, cut

off, is known as "stick lac." By tying a few of these sticks on fresh parts of trees the natives induce the insects to spread to and over fresh branches, and thus obtain two crops a year. The industry is a very ancient one and gives a living to a large number of people; and the value of lac products exported from India alone approaches 35,000,000 of rupees (about \$17,500,000) annually. The best lac comes from Bengal and the central provinces.

The original method of preparing the lac for use and market was by pulverizing the insect-covered twigs, at the proper time, and placing the fragments in hot water. This separated the scales from the wood, softened the resin, and dissolved the coloring-matter of their interior tissues, especially strong in the egg-sacks. The remains of the insects are then taken out and dried; and this operation of washing and drying is repeated until the resin from the melted scales is (or ought to be) entirely colorless. The mass is then put into a bag of coarse cotton cloth which is held near enough a fire to melt the lac, and is squeezed by twisting. The melted resin drips on small sticks arranged to receive it, and congeals into thin, light-colored, transparent flakes called shell-lac, the shellac of commerce. Large and small drops falling on the ground form button-lac, lump-lac, and so forth. Latterly this work has been done by machines made to grind the sticks, and melt and wash the material in steam-heated apparatus, which quickens the process and improves the product.

The water in which the first washings are made is deeply reddened by the dissolved coloring-matter in the insects. This water is saved, strained and evaporated, or cleared by the aid of alum, and the residue is deposited. This, when dried, is molded into cakes that furnish a rich dye. Previous to the invention of aniline colors this was very valuable, but now, like cochineal, it has nearly disappeared from trade. It furnishes, however, the basis of many "lake" tints among artist's colors, particularly the exquisite carmine-lake. "Lake" is a modified form of the Sanskrit (and modern Hindu) word *lak*, or *lac*, which means a hundred thousand, and here refers to the multitude of insects in a colony; it is also familiar to us in the financial term *lakh*, meaning 100,000 rupees.

Lac is of great value for making varnish, because easily dissolved, furnishing a hard coating susceptible of fine polish, and easily taking a dye. The Indian, Burmese and Chinese use it for making and coating ornaments, and various artistic objects, usually rich in color. It also enters into the composition of the fancy sealing wax sold by stationers, and serves other useful purposes; but it must not be confounded with lacquer (q.v.), an Oriental vegetable product that resembles lac, when applied as a coating of boxes, bowls, etc.

LAC, or LAK, from the Sanskrit *lakṣhā*, or *lakṣha*, that is, 100,000. In the East Indies it is applied to the computation of money. Thus, a lac of rupees is 100,000 rupees. A lac is equal to about \$36,500. A lac of Sicca rupees was equal to about \$50,000; 100 lacs, or 10,000,000 rupees, make a *crore*. In 1835 the British government remodeled the currency of India, establishing a more uniform system, and fixing the value of the rupee at 15 to the

sterling £—about 32 cents American; and in 1927 at 1s. 6d.—36½ cents.

LACAILLE, Nicolas Louis de, nē-kō-lōo-ē dē lā-kā-ē, French mathematician and astronomer: b. Rumigny, France, 15 March 1713 d. Paris, 21 March 1762. He was educated for the Church, but soon renounced theology for astronomy. He took an important part in the work of measuring an arc of the meridian, and in 1746 was appointed professor of mathematics in the Collège Mazarin. In 1751 he went to the Cape of Good Hope at the expense of the government, where he determined the position of some 10,000 stars with wonderful accuracy. At his departure from the Cape was delayed, he employed the interval in measuring a degree of the southern hemisphere. His works on geometry, mechanics, astronomy and optics were numerous. Among them are 'Leçons d'astronomie' and 'Astronomie Fundamentale'; 'Cœlum Australe Stelliferum'; 'Journal historique du voyage fait au Cap de Bonne Espérance'.

LACANDONES, lā-kān-dō'nēs, an Indian tribe living in Guatemala and Mexico. At one time numerous and powerful, they waged war against the whites. They are now about 300 left, of whom a part are friendly to the white people, though retaining their native customs.

LACAZE-DUTHIERS, lā'kaz-du'tyā **Henri de**, French comparative zoologist: b. Montpezat, 15 May 1821; d. Las Fous, 21 July 1901. He studied medicine at Paris and received (1854) the degree of professor of zoology at Lille, and was appointed to the chair (1865) of zoology at the Paris Museum of Natural History and (1868) at the university there. He edited, from 1872, 'Archives de zoologie générale et expérimentale,' and directed the Zoological Station at Roscoff, which he founded (1873) on the Brittany coast. In 1881 he started the *Laboratoire Arago* at Banyuls on the Mediterranean. For a number of years he devoted his researches to the study of the comparative anatomy of aquatic life, especially molluscs, and wrote, among other works, 'Histoire naturelle du Corail' (1864); 'Le monde de la mer et ses laboratoires' (1889). His letters to Alexander Dedekind appeared in 1902 (Paris).

LACCADIVE (lāk'a-div) ISLES, a group of small coral islands in the Indian Ocean about 200 miles off the west coast of Malabar and politically part of the Madras Presidency. They form 17 separate reefs, containing, however, but 14 islands, only 9 of which are inhabited. The surface soil is naturally so barren that there is little or no spontaneous vegetation on the majority of the islands, and their prosperity must ever depend on the cultivation of the coconut. The natives of these islands are a race of Mohammedans called Moplas (a mixed Hindu and Arab descent), are mild and inoffensive and dwell in low, thatched, stone built houses, and live poorly. Vasco de Gama discovered these islands in 1498. They were ceded to the British in 1792. Pop. 13,633.

LACCOLITH, lāk'6-lith, or **LACCOLITH** (Greek, "stone-pit"), a mushroom-shaped mass of molten rock which has been forced along bedding planes, between layers of sedimentary rock, and which has arched up the overlying beds into a dome. It differs from a sill in that a sill does not produce doming of the over-

ing bed. The Henry Mountains of Utah afford a famous example of a group of accoliths.

LACE, a cobweb background of threads with delicate patterns of flowers, figures and scrolls, also of threads, and used for ruffs, cuffs, collars, caps, scarves, handkerchiefs, ravats and aprons, and to trim articles of clothing, was first made in the 16th century. It reached perfection in the 17th and 18th centuries and deteriorated after the introduction of machinery. The word comes from *lakis*, meaning braid. The translators of the Bible used the word *lace* to denote braid. This definition survives in the gold and silver lace on uniforms and liveries. What is now called lace was anciently called "cut-work," "purls" and "points." It was also known as *passament* or *assement*; and *pasement dentelé* (from the French *dent*, tooth) occurs in the inventory of Henri II of France (1547-1559). *Dentelle de Florence*, occurring in an inventory of 1545, introduces the French word for lace—*dentelle*. The word *guipure*, applied to all large patterned and coarse laces which have no threads joining pattern to pattern and no delicate net background, was also anciently used for braid. The tape guipures of Italy and France were famous. Before the days of point-lace and pillow-lace people wore "cut-work" and "drawn-thread work," also known as *reticella*, *point gotico* and *needle-point gotico*. Its effect is much the same as that of diaphanous lace.

Reticella, or cut-work, originated in the Ionian Islands and spread thence to Italy and throughout Europe. *Reticella* was made from about 1480 to 1620. The patterns, handed down for generations, are stiff and geometrical and consist of circles, triangles and wheels, often decorated with tiny, spiky knots. *Reticella* was largely used for collars and cuffs and to edge ruffs and handkerchiefs. It appears in portraits of the 15th and 16th centuries and in old pattern-books. *Lakis*, which also antedated filmy lace, was the darned netting, or "spider-work," known as *filet*. It was popular in Italy. One of its names is "Siena Point." The pattern was darned with the needle upon a plain ground of coarse net. *Lakis* was made in squares and stripes and then joined. It was much used for household decoration. Catherine de' Medici had a bed draped with such squares. *Lakis* was sometimes combined with *reticella*, as the pattern book of Isabella Catanea Parasole (1616) shows.

Filmy lace appeared in the 16th century and in Italy. Antiquaries have sought in vain for its origin. It was probably an effort to imitate by woven threads the exquisite cut-linen that had reached perfection in Italy. There are but two classes of this diaphanous fabric: one, made with the needle; the other, with bobbins. The first variety is called *point-lace*, or *needle-point*; and the second, *pillow-lace*. *Point* takes its name from the French *point* (stitch). The French call it *point d'aiguille* (point of the needle). By extension, "*point*" has been given to a few laces of high quality to denote their excellence, such as *point d'Angleterre*, *point de valenciennes*, *point de Malines* and *punto di Milano*, which are not made with the needle, but with the bobbin (or pillow) laces. This produces confusion regarding the classification of

lace, already made difficult by the term pillow-lace instead of bobbin lace. As the pillow is also used for making *point-lace*, the name pillow-lace is misleading; but the classification of *point* and *pillow* is, however, too well established to admit of any change. The technical words used to describe lace are French. In both *point* and *pillow* the groundwork consists of a net of fine threads called *réseau*; or, instead of this *réseau*, slender threads called *brides* connect the patterns with each other. These *brides* are sometimes tipped here and there with little spiky knots, called *picots*. The edge, or border, is often decorated also with these *picots*. In some laces the background consists of both *réseau* and *brides*. The solid part of the design is called *toile*. In *point* there is but one kind of stitch,—the old familiar button-hole, or looped; and no matter from what country the lace comes, or how intricate, or how solid its pattern, or how fine its *réseau*, every stitch is the button-hole. If *brides* occur, they are also button-holed over, and if *picot* ornamentation is used, that, too, is button-holed over.

Pillow-laces are divided into two classes: (1) the pattern is first made on the pillow and the *réseau* filled in afterward; (2) pattern and *réseau* made in one continuous piece. Charles Blanc shows the difference as follows: "The dominant character of pillow-lace is the soft blending of its forms. The needle is to the bobbin what the pencil point is to the stump. The pattern softened when wrought in pillow-lace is depicted with crispness by the needle." Pillow-lace is produced by the intercrossing and plaiting of the threads which are rolled at one end around bobbins and fastened at the other upon a cushion by means of pins. Bobbins are elongated spindles, tapering and swelling into little handles. They are made of wood, bone, or lead. They vary in size according to the thickness of the threads; and the more delicate the lace the greater the number of bobbins. A pattern is pricked out by pins on the pillow to guide the worker. The pillow varies in size and shape.

Italian Point.—Italian Point lace, poetically called *Punta in Aria* (stitches in the air), was developed in Venice. The graceful scrolls and lovely flowers of the earliest lace resemble the arabesques of Persian ornament. Venetian Point is the richest and most beautiful of all laces. There are three classes: (1) Venetian Raised Point and Venetian Rose Point; (2) Venetian Flat Point (including the famous Coralline), and (3) Venetian Grounded Point (including *Punta di Burano*). Venetian Raised Point has large fantastic flowers issuing from rich scrolls and foliage in the Renaissance style. These designs are outlined with a heavy, padded thread, called *cordonnnet*, button-holed over. The designs are connected by *brides* and often decorated with *picots*. Rose Point has smaller patterns and more *brides* and more *picots*. It has a whirling, snowy effect and is also called *Point de Neige* in consequence. (2) Venetian Flat Point has no *cordonnnet*; but *brides* and *picots* are plentiful. Coralline Point represents a tangle of seaweed; and, though lacking in clear outlines, is extremely beautiful. Venetian Grounded Point has a net background. It was inspired by the new *Point d'Alençon*, which the

French had created in imitation of Venetian Raised Point. The pattern of Venetian Grounded Point is usually the lily and the edge is a shallow scallop. It has a *cordonnnet*, stitched down around the outline of the pattern. Burano was the chief place where this Grounded Point was made, and it was manufactured there until the beginning of the 19th century. In 1872 Burano lace was revived under the patronage of the king and queen of Italy. The Burano makers copied the *Point d'Alençon* designs and also the square mesh of the *réseau*. The unevenness of the thread gives Burano ground a somewhat cloudy appearance, which aids in identifying it.

Italian Pillow Lace.—Milan and Genoa were also famous marts for lace. The most beautiful of all Italian pillow-laces is *punta di Milano*, or Milan point (the name describing the quality). The tape pattern was made first and the ground net-work filled in afterward. The meshes of this net are diamond shaped with a plait of four threads. The Genoese lace was of two kinds: (1) a "tape guipure," the tape arranged in spirals connected with *brides* and decorated with *picots*, and (2) pointed scallops decorated with little ornaments called "wheat-ears." Genoese lace was much used for collars and cuffs and appears in portraits by Rubens, Van Dyck, Rembrandt and Frans Hals, as well as in portraits by Italian masters.

French Point Lace.—"Venetian points," or "points," were bought by the wealthy and fastidious of high degree throughout Europe. To encourage home industry, Colbert, Prime Minister of Louis XIV, established a school at Alençon with lace-makers from Venice. *Point d'Alençon* was at first an exact imitation of Venetian Raised Point; but after a time the French invented a beautiful *réseau* in imitation of the bobbin net-work ground of Flemish lace. This was an entirely new idea, for point lace had never before been grounded on net; and, as noted above, the Venetians, hoping to win back their trade, imitated the *Point d'Alençon* in their Venetian Grounded Point, or *Point de Venise à réseau*. *Point d'Alençon* is called "the Queen of lace." It was first made in 1665. By royal decree it was called "*Point de France*." The effect of this lace is delicacy; but the wonder of it can only be appreciated by applying a magnifying-glass. How human fingers can execute such delicate and minute stitches is beyond understanding. The average size of a diagonal taken from angle to angle in an Alençon hexagon is about one-sixth of an inch and each side of the hexagon is about one-tenth of an inch. An idea of the minuteness of the work can be gathered from the fact that a side of the hexagon is overcast with 9 or 10 button-hole stitches. One characteristic of *Point d'Alençon* is a heavy outline (*cordonnnet*) button-holed over horsehair, which makes it firmer and heavier than any other fine lace. The designs are flowers, foliage, scrolls and arabesques, in the style of the decoration of the period. Spots, tears, sprigs and insects were used for designs in the days of Louis XVI. The factory became extinct during the Revolution. It was revived by Napoleon, when Bonaparte bees were used for motives in combination with flowers. This superb lace has always commanded fabulous prices. The Empress Eugénie had a dress of *Point d'Alençon*, for which

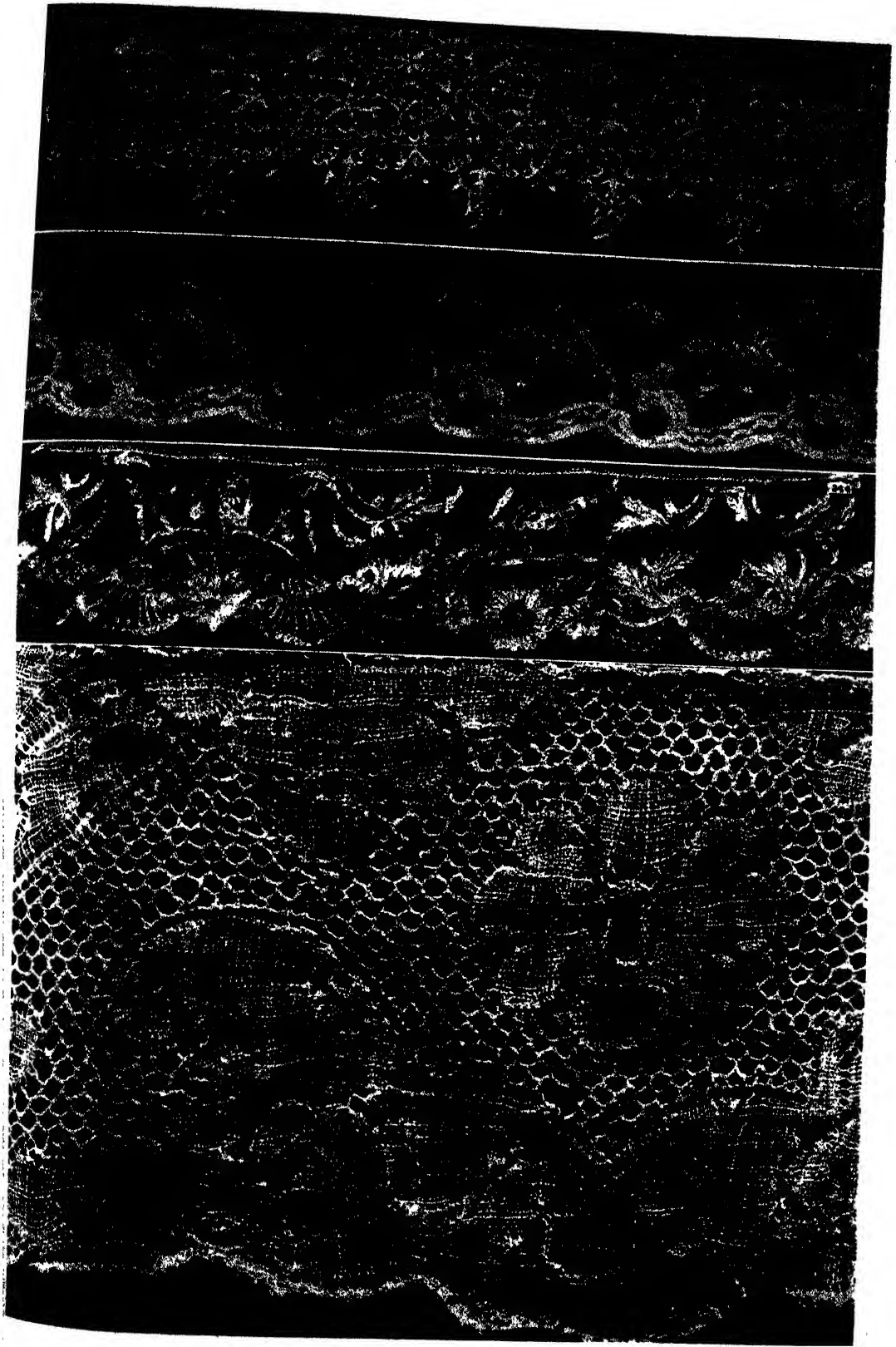
Napoleon III paid 200,000 francs (\$40,000) in 1859. In later years she gave it to Pope Leo XIII, who wore it as a rochet.

Argentan was established at the same time as Alençon and also produced lace in imitation of Venetian Point. It can only be distinguished from Alençon after Alençon adopted the *réseau*. Argentan kept to the *bride* ground of a six-sided mesh worked over with button-holed stitches. The large *bride* ground could support bolder and larger flowers and in heavier and higher relief than the *réseau* ground. The *bride picotée* is also a characteristic of the Argentan Point. Checked by the Revolution, it was revived in 1810; but in 1830 cotton, instead of linen thread, was used and debased the quality. Argentan Point became rare about 1858 and the secret of making it was lost in 1869. Although France borrowed the technique of lace-making from Italy, she put her own stamp upon it, and gradually brought it to such perfection that both *Point d'Alençon* and *Point d'Argentan* enjoyed enormous vogue. Other workshops were founded at Le Quesnoy, Arras, Rheims, Paris and Sedan.

French Pillow Lace.—Ten years before Colbert made French lace such an item of trade Le Puy had become a centre for lace-making, and the Duchesse de Longueville, Condé's sister had established lace-makers at Chantilly. Le Puy was the oldest lace-centre in France. It was noted for its thread laces and silk guipures. These guipures were made in bands, for which designs of geometric character, squares, stars and formal blossoms were used. Some of the Le Puy laces were known as "guipures de Cluny," from the Cluny Museum in Paris. Flax, silk, worsted, goat's hair and Angora rabbits' hair were used with equal facility at Le Puy.

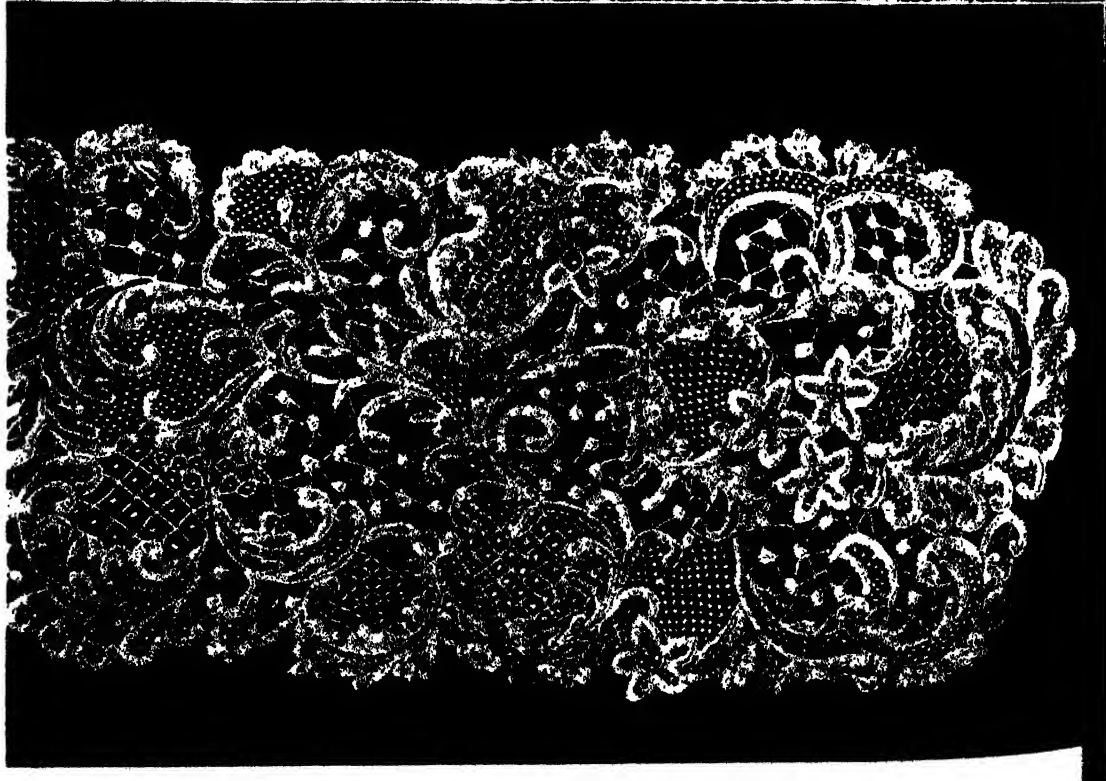
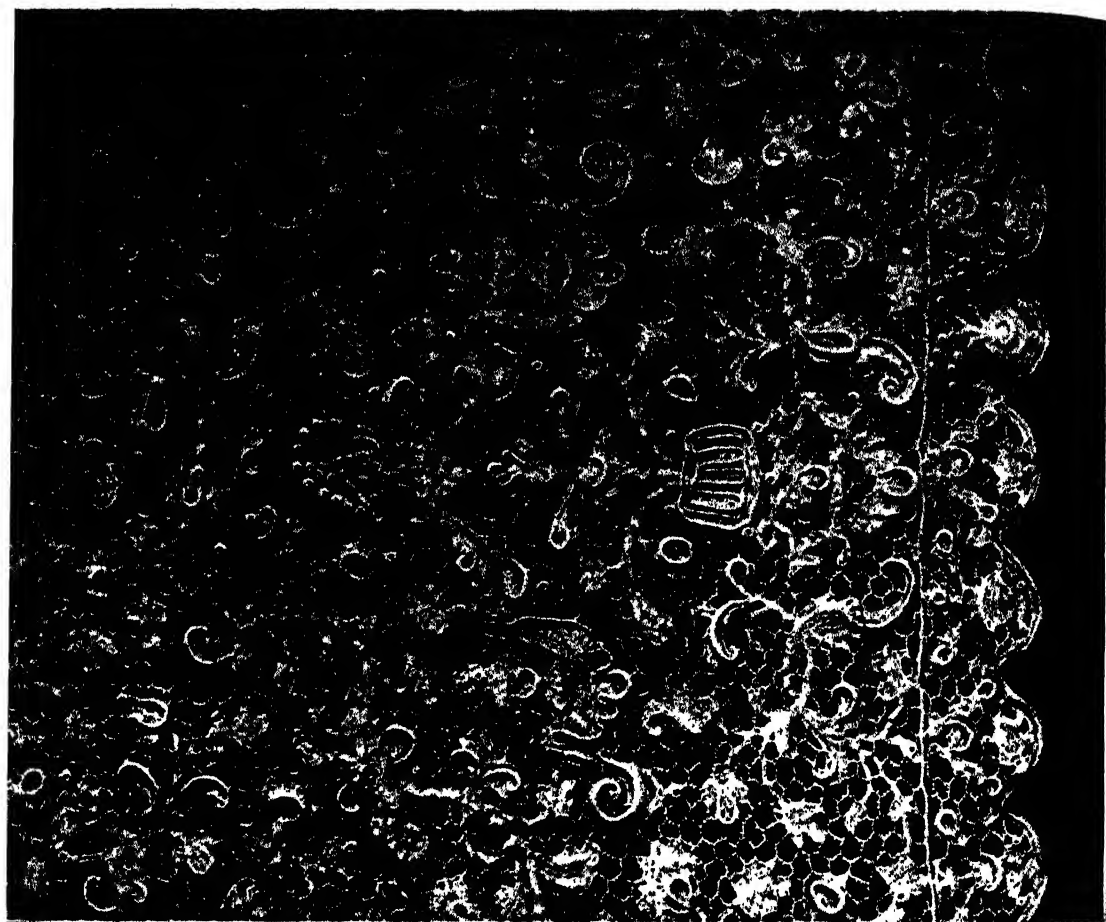
Valenciennes is the most beautiful of all French pillow laces. Bobbin lace was made in Valenciennes in the 15th century, when the town belonged to Flemish Hainault. After Colbert founded Le Quesnoy the lace industry at Valenciennes revived and supplanted that in the neighboring town. Owing to the number of bobbins required, Valenciennes was the most expensive of all pillow-lace, though the workers who sat in dark cellars from four in the morning until eight at night, with only a little light concentrated on the pillow, received but a few pennies a day. Many went blind. A piece of lace "worked all by the same hand," therefore, was rare and commanded a large sum. In the town was made what the trade called "true Valenciennes" and in the suburbs "false Valenciennes" was produced. At the Revolution many workers fled into Belgium and settled in Alost, Ypres, Ghent, Menin, Courtrai and Bruges. Every town made a characteristic *réseau*. Valenciennes was revived, but the modern productions are not so fine as old Valenciennes. In the 18th century Valenciennes was much used for ruffles, cravats and trimmings. It was not regarded as a lace for full dress, nor was it a Church lace. Valenciennes is all made in one piece, the threads forming a continuous *réseau* and *toile*. There is no *cordonnnet*. The *réseau* is composed of circles in the earliest examples, but of squares in later examples. The flowers in early examples are tulips, anemones, iris, or carnations and have almost the appearance of cambric. Later specimens usually have

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- 1 Italian 16th and 17th centuries needlepoint.
- 2 French late 18th century Valenciennes bobbin.
- 3 French early 18th century needlepoint. Point d'Argentan.
- 4 French late 18th century bobbin. Valenciennes—enlarged detail.

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scalloped border containing a leaf, petal or other, and the *réseau* is sprinkled with dots. Machinery has imitated this lace very successfully and a vast amount of it is sold. It is commonly called "Val."

Chantilly.—Chantilly was also famous for lace. After having produced lace of second-rate value of the Valenciennes and Mechlin type, Chantilly suddenly achieved reputation by making silk lace, especially black. The material used was a silk, called *grénadine d'Alais*. The peculiar twist in spinning these threads so finished the lustre that people frequently imagine Chantilly is made of flax, dyed black. The *réseau* is a six-pointed star, known as "*ond Chant*," an abbreviation of Chantilly, then used by other workshops. Chantilly also used the Alençon ground and sometimes used the Alençon and the *Fond Chant* in the same lace. The patterns of old Chantilly (whether white or black) were often of vases of flowers and other decorations similar to ornaments

on Chantilly pottery. Chantilly lace ceased to be made during the Revolution, but was popular again under the Empire, when "blonde" lace came the rage in Paris. Chantilly was first made in bands and invisibly joined. After 1840 (in the reign of Louis Philippe) it enjoyed great favor and large pieces were made, such as shawls, fichus and bridal-veils, and smaller articles such as "*barbes*," parasols, handkerchiefs, fan-mounts, etc. In the days of Napoleon III flounces and dresses and other articles of Chantilly were made even more popular by the Empress Eugénie and they found a large market among wealthy Americans. In 1870 the workshops became bankrupt. Modern Chantilly is made at Calvados, Caen and Bayeux.

Bayeux.—Bayeux made exquisite black lace in which the elaborate patterns of flowers and other ornaments are rendered with the utmost accuracy of shading. At first Bayeux made lace in the Venetian style, then it followed the styles of Chantilly, and so beautifully that experts are led to tell the difference. Many so-called "Chantilly shawls" were made in Bayeux, but none the less valuable for that.

Blonde.—Blonde lace came in fashion about

1660. It was made of unbleached silk imported from Nankin, whence the name "nankeen," as well as "blondes." Soon the French made it of white and black silk. Marie Antoinette gave it special vogue. Blonde lace was made at Chantilly, Le Puy, Bayeux and Caen.

It was almost made in her own lace; but Spanish blondes do not equal those of Chantilly and Bayeux. Of blonde are made the Spanish mantillas that so gracefully drape the heads of the Spanish women. Those of white are worn on full dress occasions only; black is used for "second-best." During the Second Empire, owing to the taste of the Empress Eugénie, the big Spanish floral designs were made in the French workshops. These terms have never gone out of favor.

Spanish Lace.—Spanish blonde is the local lace of Spain. Barcelona early attained reputation for it and is still the centre for its manufacture. Comparatively little is known regarding Spanish lace, for it has not been studied thoroughly as the lace of other countries. We know, however, that cut-work (*reticella*) laces were made in Spain in the 15th and

16th centuries and that "Spanish Point" was as celebrated in its day as the "Points" of Italy or France. Regarding it Mrs. Palliser says: "The sumptuous Spanish Point, the white thread arabesque lace, was an Italian production originally. It was imported for the Spanish churches and then imitated in the convents by the nuns, but was little known to the commercial world of Europe until the dissolution of the Spanish monasteries in 1830, when the most splendid specimens of nuns' work came suddenly into the market, not only the heavy lace generally designated as *Spanish Point*, but pieces of the very finest description (like *Point de Venise*), so exquisite as to have been the work only of those whose time was not money and whose devotion to the Church and to their favorite saints rendered this work a labor of love." A great deal of fine lace went to Spain from Flanders; for in the 16th century Flanders was a part of the Spanish domain and the Emperor Charles V, therefore, ruled both countries. He, a native of Ghent, preferred the Netherlands to Spain and brought here as much of his native atmosphere as possible. Tapestry-weavers, lace-makers, embroiderers, furniture-makers and other artists were transported in large numbers and Spanish workers were also sent to the Netherlands. Consequently, there was an interchange of styles between the two countries.

Flemish Lace.—Flanders was superior to all other countries in its flax and the fineness of the linen thread the people were able to produce. An immense quantity of bobbin (or pillow) lace had been made in this country from an early period, and also "tape guipure" (the tape following the lines of the pattern and connected by *brides*), lightened by holes called "bird's eye" (single, or arranged in groups). As soon as Alençon began to succeed, Flanders began to make artistic needle-point, too.

Brussels Point and Pillow.—The Needle-point made in Brussels from about 1720 closely resembled Alençon in pattern and in general effect; but it was not so firm, and the *toile* was looser than Alençon and the button-hole stitched *cordonné* (so distinctive of Alençon) was absent in Brussels. The fineness of the thread was almost fabulous.

It had to be spun in dark, cold, underground rooms, for light and heat were said to hurt it. The earliest patterns of Brussels Point resemble the Venetian and the Alençon designs; and as Brussels lace enjoyed such patronage at the French court it followed the ornamentation in fashion. Brussels lace of the days of Louis XIV shows the designs of Marot, Berain and Lepautre; in the days of Louis XV zig-zags, pagodas and Chinese figures appear; then come leaves and flowers (particularly the pink, tulip and rose), insects, birds, trophies, feathers and striped ribbons of the Louis XVI period; and then the pseudo-classic motives of the Napoleonic period, as well as flowers, sprigs, wreaths, columns, stars, crosses and spots. The palm and pyramid were also frequent during the empire. Brussels Needle-point was and is still known as *point gaze*. It is famous for the variety of its patterns, the great diversity of the "fillings" between them and its marvelous firmness. There were two kinds of grounds: the *réseau* (or net) and the *bride*. Sometimes, too, *réseau* and *bride* grounds are mixed in the

same piece. The *réseau* was made in two ways — by needle and with bobbins. Hence Brussels is sometimes both a *point* and a *pillow-lace*. There are also two ways of producing the flowers and other ornaments — with the needle and with bobbins. When the ornaments are made with bobbins on the pillow, the lace is called *point plat*. In old lace the plat flowers were worked in with the ground, for the "applied" method was unknown. "In the modern *point gaze*," according to Mrs. Palliser, "the flowers are made with the same thread as the ground (as in old Brussels). It is made in small pieces, the joining concealed by small sprigs, or leaves. Brussels *point de gaze* is the most filmy and delicate of all point-lace. Its forms are not accentuated by a raised outline of button-hole stitching as in *point d'Alençon*; but are simply outlined by a thread. The execution is more open than in the early lace and part of the *toile* (heavy part of the design) is made in close and part in open stitch to give an appearance of shading. The style of the designs is naturalistic." The introduction of machine-made net (*nulle*), the famous "Brussels net," gave a new impetus to Brussels *point-gaze*, for the substitution of a machine-made for a hand-worked ground diminished the costliness, and such large articles as shawls and bridal-veils were multiplied. The flowers and other ornaments, after being made by hand, were applied on the net (sewn on delicately). Sometimes these were needle-point and sometimes bobbin-made (pillow). Great ingenuity, variety and skill were displayed in the fillings between these ornaments. Ghent and Alost, as well as Brussels, derived great profit from this kind of lace.

Point-plat appliqué is the name given to bobbin-made sprigs applied to machine-made net. Point Duchesse is also a Brussels lace. It is a bobbin (or pillow) lace of fine quality in which the sprigs (resembling Honiton) are connected by *brides*. Duchesse is a modern name. The lace resembles the old tape-guipure of Flanders, made at Bruges in the 17th and 18th centuries and much used for cravats.

Mechlin.—Mechlin lace is ranked very high by connoisseurs. It is also called *Point de Malines*. Mechlin is made in one piece on a pillow with bobbins, the ground and the pattern being worked together with various fancy stitches. Its distinguishing feature is the *cordonet*, here a flat, silky thread which outlines the pattern and gives this lace almost the character of embroidery. The hexagonal mesh of the *réseau* is made of two threads twisted twice on four sides and four threads plaited three times on the other two sides. Sometimes the pattern is "*fond de neige*," sometimes "*oeil de perdrix*" and sometimes *Fond Chant*. Very early Mechlin has *points d'Esprit* (little square dots); but this is rare. The characteristic pattern is a sort of sunflower, rose, or pink, in full blossom and also with closing petals. The border is a shallow scallop, or it is slightly waved. The flower appears on the edge and the rest of the ground is sprinkled with square spots, quatrefoils, or leaflets. The flower is Flemish in character and the powderings (*semés*) are French in style. Open spaces, filled in with *brides*, that make a kind of lattice-work, are characteristic and give Mechlin a charming delicacy. A four-petaled flower often fills in

the spaces in the scrolls. Mechlin was always a costly lace. "It is without question," writes Lefébure, "the prettiest of all pillow-laces." Mechlin was in great request during the reign of Louis XV and the rococo style of ornament prevailed in its designs. To some extent, in their lightness and delicacy, they may be compared with similar patterns upon contemporary engraved glass from Saxony and Bohemia. Under Louis XVI, floral sprays and delicate interleavings were used in the patterns. No better lace can be found to assimilate with and adorn light textures, such as gauze and muslin. Our great-grandmothers showed appreciation of its appropriateness in using it to adorn their mountains of powdered hair. Mechlin was also made in Lierre, Turnhout and Antwerp.

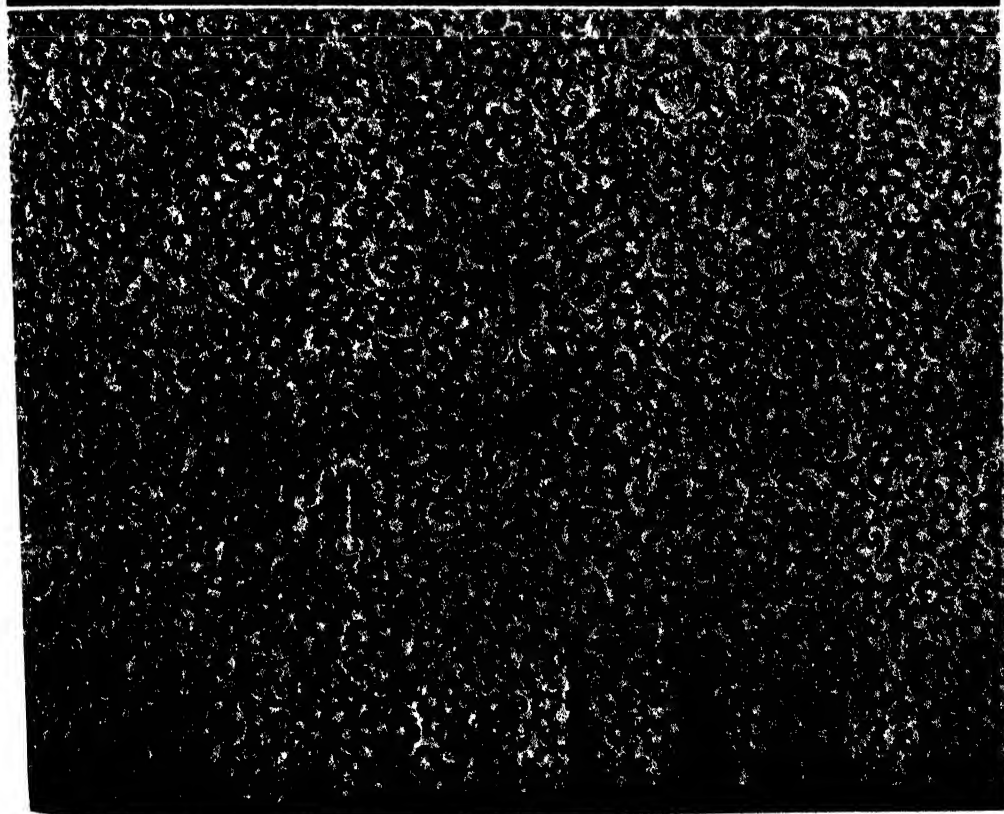
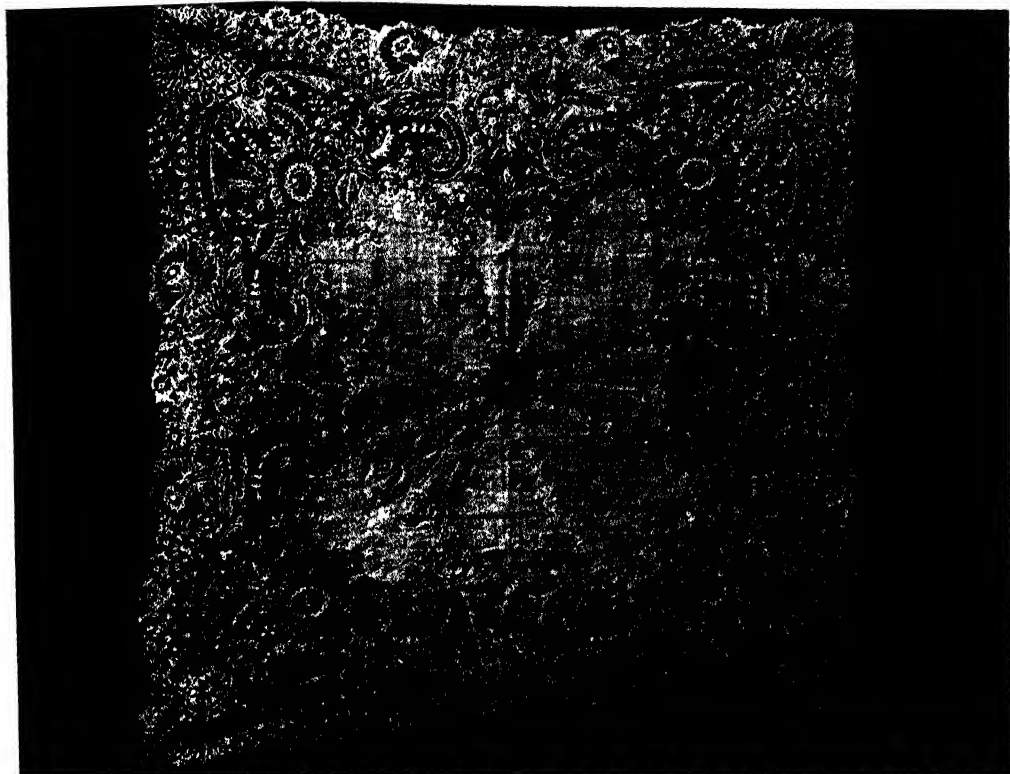
Antwerp.—Antwerp was a great mart. Its distinctive lace had a vase, or pot of flowers, whence its name "*Potten Kant*." The blossoms are pinks, roses and sunflowers, and sometimes straggling branches are thrown from the flowers. The ground varies: sometimes it is the six-pointed star; sometimes the partridge eye, etc.

Lille, the old capital of Flanders, was not a French town until after the Treaty of Aix-la-Chapelle. Its lace resembles Mechlin. The chief difference is in the *réseau*, which is even lighter than that of Mechlin. It uses the *Fond Chant* (six-pointed star) and the "*fond simple*." Square dots, known as "*points d'esprit*," are also characteristic of Lille. The laces of Mons are also Flemish. Ypres, Alost, Courtrai and Bruges made lace of the Valenciennes type. Ghent, Binche, Liège and Saint Trond were also centres. In fact, for three centuries lace-making has been the chief industry of Flanders and of Belgium.

German Lace.—Germany claims the invention of lace. A tombstone in Annaberg reads: "Here lies Barbara Uttmann, died, 14 Jan 1575, whose invention of lace in 1561 made her the benefactress of the Harz Mountains." Barbara Uttmann, wife of a rich mining overseer, however, learned to make pillow-lace from a Brabant exile. She set up a workshop in Annaberg, which employed 30,000 workers. French refugees in northern Germany (most of them from Alençon) improved lace-making there and Italians influenced work in Bavaria and Saxony; but German lace never acquired artistic reputation outside of Germany.

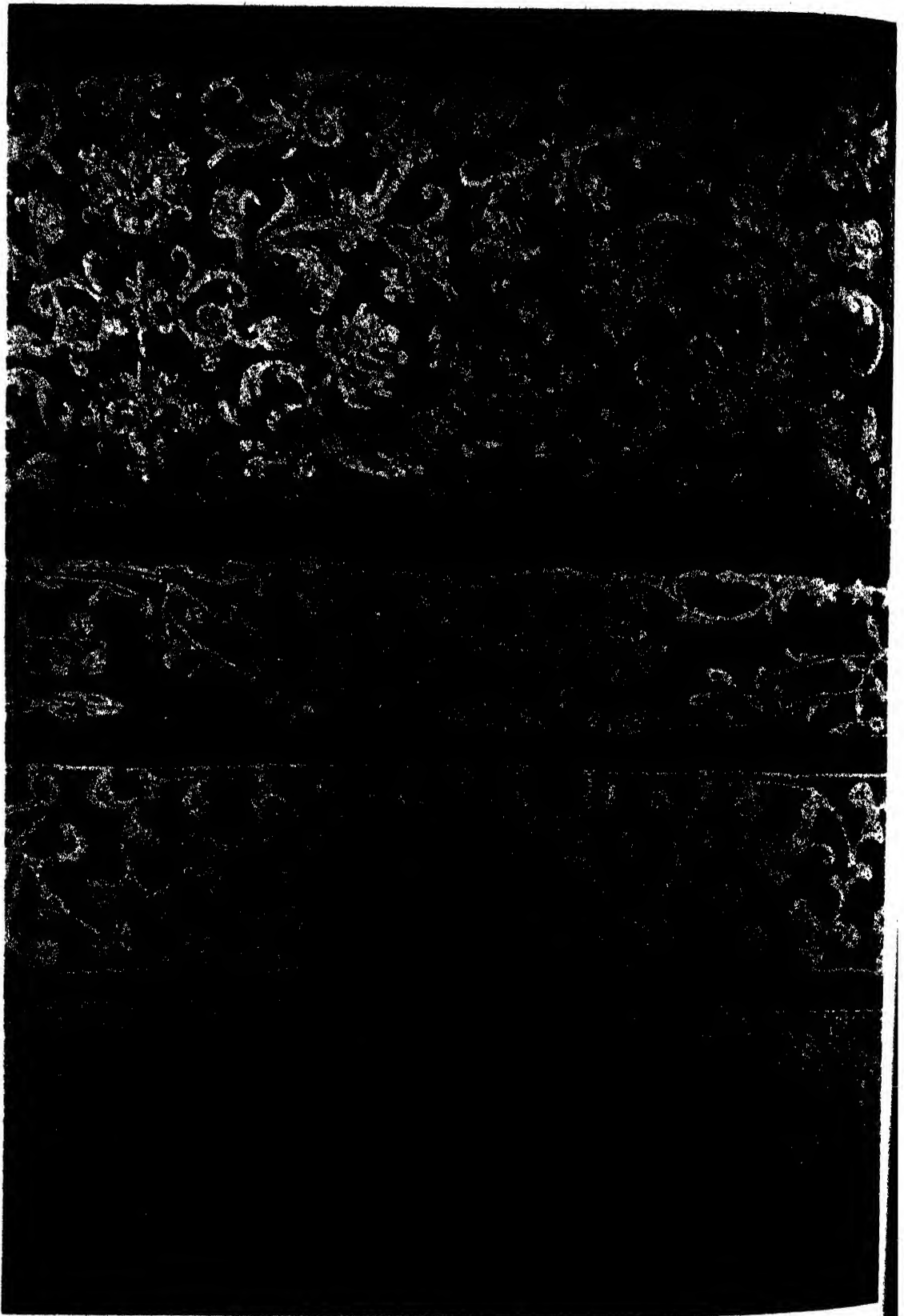
English Lace.—England was never a great lace-making country; but the wealthy lords and ladies purchased lavishly of the fine laces of other countries. English flax was poor in comparison with that of the Continent, which may have been the reason that Point lace was little made. Tudor inventories mention the fine "cutworks" and "points" of Italy, and no one had more of them than Queen Elizabeth. She also patronized fine Flemish lace. In her reign Flemish refugees, flying from the persecutions of Alva and the "Spanish Fury," carried the lace-making industry to Devonshire. Honiton was their chief settlement, and from this time onward we read of "bone-lace" in old Elizabethan literature, a name, of course, for bobbins (sometimes made of bone). In the second half of the 17th century Flemish Point supplanted Venetian and French in the estimation of the English. When Cromwell's body lay in state it was draped with superb Flemish Point.

LACE



Top: Classic 17th century needlepoint.
Bottom: French early 18th century needlepoint. Flounce-Point de France.

LACE



At the top is an example of Italian 18th century needlepoint in relief, Gros Point de Venise. Below are examples of Flemish 18th century bobbin.

The enormous demand for Flemish Point occasioned smuggling on such a vast scale that Parliament prohibited all importations of it. Then, to supply their customers, merchants bought lace in Belgium and smuggled it into England where they sold it under the name of *Point d'Angleterre*, or English Point; and under this name it often was taken to France and sold. This lace was Brussels Point. Flemish lace continued popular for a long time in England. Defoe makes Robinson Crusoe send from Lisbon "some Flanders lace of good value as a present to the wife and daughter of his partner in the Brazils."

Honiton Pillow.—The most famous English lace is Honiton. It resembles the old tape guipure of Flanders with open *brides*. The patterns are large and are made first and then joined. The "Honiton Sprigs" were (and still are) famous, although the poppy, butterfly, acorn, etc., have not always been of fine design. Honiton resembles in some degree the "Duchesse Point" of Brussels. It still keeps to the Flemish type. Its value was determined by covering a piece of lace with shillings. Queen Victoria's wedding-dress was of Honiton and cost £1,000 (\$5,000). Honiton lace-veils, worth hundreds of guineas, are treasured heirlooms in America and in England. England has had two centres of lace-making: Devonshire; and the South Midlands (Nottingham, Bedford and Buckingham). In the latter town lace was made after the style of Mechlin, Antwerp and Lille, always grounded and never guipure (as in Honiton). Machinery for making lace was invented in Nottingham. In 1768 a workman, Hammond, conceived the idea of making a net tissue on a stocking-knitting machine. This was improved by Heathcote's bobbin net loom in 1809. The French then established manufacturing in Lyons and Saint Pierre-des-Calais. In 1837 Jacquard invented his apparatus for fancy weaving; and an adoption of it to net-weaving machines produced tulle, *brochés*, or flowered nets. This gave a severe blow to hand-made lace. Buckingham and Nottingham have also been famous for their Yak lace, made from the wool of the Yak. The designs, following those of Malta and Genoa, are decorated with wheat-ears and resemble the ancient "cut-work."

Irish Lace.—Lace began to be an industry in Ireland in 1829-30 in Limerick and Carrickmacross. Limerick is a *tambour*, i.e., threads embroidered on net, and Carrickmacross is distinguished by patterns cut in cambric and applied on a net ground. Beautiful, ornate stitches like latticework are also characteristic of Carrickmacross. The style came from Italy. Vasari says it was invented by the painter Botticelli. Point lace, in the style of the 17th century, is now made at Youghal (County Cork), the chief centre, and also in Kenmare, Killarney, Waterford, Kinsale and New Ross. Linen thread of the finest kind is used and the meshes are so small that the stitches are almost invisible. Irish Point owes its existence to the failure of the potato crop in 1847. The Irish then tried to gain money by the Point Lace industry. It is a beautiful production and is worked entirely by the needle.

Peasants make pillow lace in every country, differing in style and pattern in every place. In

many countries Torchon is made. This is also called "beggars" lace. It has been imitated successfully by machinery. The knotted lace known as *Macramé*, made in convents in the Riviera, is taught by the nuns to the peasants. It is a survival of the old knotted lace made in Spain and Italy in the 15th and 16th centuries. It is tied with the fingers. *Macramé* is much used in Genoa. The name is Arabic in origin.

Of late years beautiful handmade lace has been produced in the United States in the newly established "lace-schools," particularly after Italian methods. Some of these schools are under wealthy patronage; others are connected with settlement work.

Lace is made in the Latin-American countries after the Spanish styles. In Fayal lace is fashioned out of the fibre of the aloe. In the Philippines lace is made from the fibre of the pineapple.

The machine-lace industry of Europe is centred in Paris, Lyons, Calais, Saint Gall, Nottingham and Plauen. The importations of laces and embroideries (including nets, veilings and curtains) in the calendar year 1926 were as follows: Handmade laces, \$982,607; machine-made laces, \$5,074,568; articles in part of lace, \$1,236,995; nets, veilings, etc., \$1,047,473.

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'French and English Furniture,' etc.

LACE BARK, is derived from the inner bark of several species of trees and is readily detached in sheets or layers like birch bark, each layer being a delicate network of fibre, which when gently stretched a pentagonal or hexagonal mesh is formed which resembles lace. The most commonly known species is the lace bark tree of Jamaica, *Lagetta linearia*. It is said that Charles II was presented by the governor of Jamaica with a cravat, frill and pair of ruffles made from this substance. The fibre can also be twisted into strong ropes and in past time thongs and whips were made from it, with which the negroes were beaten. The lace bark tree of New Zealand is an Australian species, *Plagianthus betulinus*, more commonly known as the ribbon tree; its layers of bark showing the same beautiful lace-like texture as the Jamaica form. Another species producing a delicate, white lace-like tissue is the Birabira of South America, *Daphnopsis tenuifolia*.

LACE BUG, vulgar name for some of the *Tingitida*, given on account of the gauze-like or lace-like meshes of the wing covers, lacking membrane and almost transparent, widely expanded beyond the body. A hood-like process also filled with meshes, sometimes projects forward. The *Corythuca arcuata* is an example

of the group and is found in vast numbers on the undersides of leaves of oak trees. It lays its eggs next the midrib and veins and stays there drawing sap from midsummer until frost. It measures about a sixth of an inch. The *Corythuca ciliata* abounds on the sycamore. They are both white.

LACEAEMON, lās-ě-dě'mōn. See SPARTA.

LACEPEDE, lā-sā-pēd', COMTE DE (BERNARD GERMAIN ETIENNE DELAVILLE), French naturalist: b. Agen, France, Dec. 26, 1756; d. Epinay, France, Oct. 6 1825. He abandoned the military profession, for which he was destined, and devoted himself to the study of natural history. His teachers and friends, Georges Buffon and Louis Daubenton, procured him the important situation of keeper of the collections belonging to the department of natural history in the Jardin des Plantes. In 1791 he was elected member of the Legislative Assembly and belonged to the moderate party. Napoleon made Lacépède a member of the conservative Senate and conferred on him the dignity of grand chancellor of the Legion of Honor. After the restoration he was made peer of France. He continued Buffon's *Histoire naturelle* with the titles *Histoire des quadrupèdes ovipares et des serpents* (1788-89) and *Histoire naturelle des reptiles* (1789) and published also *Histoire naturelle des poissons* (1798-1803); and *Histoire des cétées* (1804).

LACERTILIA, lās-ēr-tīl'ī-ā, or **SAURIA**, sō'ri-ā, reptiles belonging to the suborder (of the order Squamata) that contains the lizards (q.v.).

Diagnostic Features.—Lizards, as representatives of the Squamata, are characterized by having a single temporal opening, the upper, which lies above the suture of the postorbital and squamosal reduced, and the quadratojugal absent. Flexibility of the jaws is provided by a movable quadrate. The tabular or the supratemporal is represented by a single bone, and the lacrimal is greatly reduced or absent, along with the postparietal.

In recent lizards the teeth are not set in sockets; they are fused to the crest (acrodont) or to the inner sides (pleurodont) of the jaw. The palate is similar to that of primitive reptiles.

Lizards differ from snakes (derived from lacertilian ancestors) in having the right and left halves of the lower jaw united by a suture, and usually in having the anterior end of the brain case open. Most lizards also differ in having movable eyelids, at least traces of a pectoral arch, and a parietal (pineal) eye. There are exceptions to these characteristics, but in combination they serve to differentiate the suborders. Lizards resemble snakes in having paired copulatory organs, and a transverse anal opening.

Origin.—The oldest lizard remains are found in rocks of the Jurassic period, some 150 million years old. Although there is no clear-cut evidence, it is probable that the Lacertilia represent a branch of the same stock, eosuchian in origin, that evolved the Rhynchocephalia. Hence their ancestry may date back to the late Permian period, roughly 200 million years. The rhynchocephalians disappear in the fossil record at approximately the same time that the adaptively similar lizards begin their expansion. It was not

until later, during Tertiary times, that lizards began to flourish. They gave rise to the snake at least as early as the Cretaceous, and probably earlier. Since the Cretaceous many lizards have lost limbs or undergone other modifications fitting them for subterranean habitats. To this extent many existing lizards are snakelike. Further evolution in the serpentine direction may have been precluded owing to the snakes' having pre-empted the modes of existence available to the sort of reptile. Some families of snakes, particularly the Typhlopidae, retain characteristic of burrowing lizards and fill similar roles in nature.

Classification.—The most recent survey of the Lacertilia is that of C. L. Camp (1923), with minor modifications by M. A. Smith (1932) and Alfred S. Romer (1945). Seven infraorders, comprising the following families are recognized:

Infraorder GEKKOTA. Lizards with six cervical vertebrae, a fleshy, protrusible tongue and an incomplete postorbital arch; pleurodont. Vertebrae either amphicoelous with persistent intercentra, or secondarily procoelous without intercentra.

1. Family GEKKONIDAE—Geckos. Bony temporal arch lacking, eyes usually covered with a transparent membrane without movable lids, the pupil often elliptical; osteoderms lacking. The families Uroplatidae and Eublepharidae recognized by some authors, but possibly derived phylogenetically from the Gekkonidae, are not retained by Smith (1933). Gecko (q.v.) inhabit the warmer portion of the world, with a few in temperate zones.

Infraorder IGUANIA. Lizards with six cervical vertebrae, complete skull arches; procoelous vertebrae, with no intercentra; a fleshy, scarcely protrusible tongue. Eye with movable lids and a round pupil.

1. Family IGUANIDAE—Iguanas. Pleurodont, teeth usually with cutting edges but with little specialization (homodont). Largely confined to the New World; representatives in Madagascar and Polynesia.

2. Family AGAMIDAE—"Dragon lizards." They differ but little from the iguanids except that the teeth are acrodont. Confined to Eurasia, Africa and Australia.

Infraorder RHINOLOSSA. Lizards with three cervical vertebrae, complete skull arches, and procoelous vertebrae with elongate centra.

1. Family CHAMELEONIDAE—Chameleons. Casque headed lizards, with an extremely extensible tongue, no clavicle or interclavicle, and with opposable digits in bundles of two or three. Largely confined to Africa and Madagascar; three species in Eurasia.

Infraorder SCINCOMORPHA. Lizards with moderately long, usually scaly tongues, with a slight distal bifurcation.

1. Family XANTUSIDAE—"Night lizards." Vertebrae procoelous; dorsal scales granular, ventrals squarish. Supratemporal fenestra closed by union of squamosal and parietal bones; pleurodont. Eyes with movable lids covered by a transparent membrane. Confined to southern North America and Cuba.

2. Family SCINCIDAE—Skinks. Vertebrae normally procoelous, skull arches complete, dentition pleurodont. Premaxillaries not fused, osteoderms present on head and body. Ventral scales imbricate, no femoral pores. Limb present or represented only by vestiges of pectoral and pelvic girdles.

3. Family ANELYTROPIDAE. A single limbless species differs from skinks in lacking skull arches or any trace of a pectoral arch; premaxilla single. Confined to eastern Mexico.

4. Family FREYLIIDAE. Limbless lizards probably derived from skink stock; vestiges of a pectoral girdle present, premaxilla single. Confined to Africa.

5. Family DIPSIDAE. Burrowing lizards with skull arches, and united premaxillaries. Derivatives of the skink stock, with no forelimbs, hind limbs absent in the female, but represented by external vestiges in the male. Osteoderms lacking. Three species, in Indochina, the Philippines, the Malay Peninsula, and adjacent islands.

6. Family GERRHOSAURIDAE. Supratemporal fossa roofed over by osteoderms, also present on body. Ventrals scales non-imbricate; femoral pores present. Confined to Africa and Madagascar.

7. Family LACERTIDAE. Supratemporal fossa roofed over by osteoderms, absent on the body. Abundant in Africa, represented in Europe and Asia.

8. Family TEIIDAE. Lizards with the supratemporal fossa open, no osteoderms. Confined to the Americas.

9. Family ARDEOSAUROIDAE. Fossils from the Upper Jurassic of Europe are placed in this family, possibly related to the gekkos.

Infraorder AMPHISBAENIA. Burrowing limbless lizards, with vertebrae having broad, flat centra.

1. Family **AMPHISBAENIDAE**—"Worm lizards." No skull arches, no osteoderms, premaxilla single. Except for two species in western Mexico that retain forelimbs, the pectoral arch is vestigial or absent. Largely restricted to Africa and South America, one species in Europe, one in Florida, a few in the West Indies, and western Mexico. Infraorder **PLATYNOTA**. Lizards with long, slender bifid, retractile tongues.

2. Family **VARANIDAE**—the monitors. Seven cervical vertebrae; pleurodont; head covered with small scales. A single genus with living representatives, often of large size, in Africa, Asia, the East Indies and Australia. Other genera are known from fossils in North America, Eurasia and Australia.

3. Family **DOLICHOSAURIDAE**. Ancient relatives of the Varanidae, from Cretaceous deposits in Europe.

4. Family **IGUALOSAURIDAE**. Primitive marine lizards with seven cervical vertebrae and sub-theodont (partly socketed) teeth. The Lower Cretaceous of Europe.

5. Family **MOSASAURIDAE**. Marine lizards, some, 30 feet long, with paddlelike limbs; seven cervical vertebrae; sub-theodont teeth. Widely distributed during Upper Cretaceous times.

Infraorder **ANGUIMORPHA**. Lizards with normally procoelous vertebrae; six cervicals; osteoderms sometimes present.

1. Family **PYGODIDAE**. Slender, snake-like lizards, with no forelimbs, vestiges of hind limbs, a feebly bifid, extensible tongue, small eyes, pupil vertical, without movable lids. Skull arches lacking, pleurodont.

2. Family **ANGUIDAE**. Skull arches lacking; pleurodont; six bones in mandible; entire body protected by osteoderms. Limbs fully formed, vestigial, or absent. Widely distributed, but absent from Australia. The family Euposauridae of the Upper Jurassic of Europe may be related to the Anguidae.

3. Family **ANNIELLIDAE**. Limbless lizards, without skull arches; five bones in the mandible; osteoderms present; pleurodont. Restricted to California, Lower California, and one adjacent island.

4. Family **XENOSAURIDAE**. Skull arches, osteoderms present; pleurodont; five bones in the mandible. Southern Mexico and Guatemala.

5. Family **HELODERMATIDAE**—Beaded lizards. Postorbital arch present; supratemporal arch absent. Pleurodont; teeth grooved in two surviving species (*Heloderma*, the only venomous lizards). Restricted to western Mexico and the American Southwest. Grooves lacking in teeth of the Bornean *Lanthanotus*, sometimes placed in the family Lanthanotidae. The one species in the family Shinisauridae of China may be related to *Lanthanotus*. The extinct family, Glyptosauridae, is intermediate between the Helodermatidae and the Anguidae.

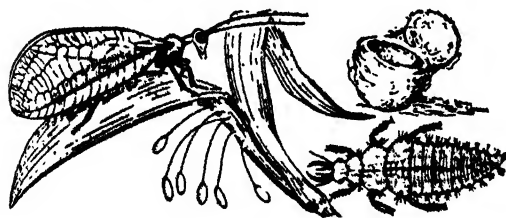
6. Family **CORYLIDAE** (**ZONURIDAE**). Skull arches present, six bones in the mandible, pleurodont. Osteoderms usually present. Confined to Africa.

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LACEWING, a neuropterous insect belonging to the families Hemerobiidae (brown lacewings) and Chrysopidae (green lacewings), of which more than 700 species are known. The chrysopids have golden eyes; the eggs are fas-



Lacewing fly

tened at the end of a long slender stalk and may be laid singly or in groups of twenty or more which may be in rows or in a concentric pattern. The hatching larvae usually eat part of the egg shell before crawling to the base of the stem and going in search of living food. They are

elongate, hairy, and characterized by a pair of long jaws through which they suck the juices of their victims.

Lacewings are called aphid lions and are extremely beneficial, living chiefly on aphids, scale insects, mites, eggs of other insects, and any small creatures they can capture. The hemerobiid eggs are not placed on stalks; the larvae have similar habits and are called aphid wolves.

LA CHAISE, François d'Aix de, là sház', French Jesuit confessor of Louis, XIV: b. Château d'Aix, Aug. 25, 1624; d. Paris, Jan. 20, 1709. He was the provincial of his order when Louis, on the death of his former confessor, appointed La Chaise to that office. The new confessor with admirable tact kept himself clear of the innumerable meshes of court intrigue. Jansenism was at the time a powerful factor in ecclesiastical and political circles, and the Jesuits were its most formidable adversaries, but La Chaise knew how to conduct himself under all circumstances with address, coolness, and sagacity; and never allowed himself to be drawn into violent measures against his opponents. That Louis XIV married Françoise d'Aubigné, Marquise de Maintenon, was owing principally to the counsels of his Jesuit confessor. La Chaise retained the favor of his monarch till his death, and Louis had a country house built for him to the west of Paris, on an eminence which had received the name of Mount Louis. Its extensive garden now forms the cemetery of Père Lachaise, the largest in Paris.

LACHES, là'kēs, Athenian general: d. 418 B.C. With Chareades he commanded a fleet sent to Sicily in 427 B.C. He was victorious but Cleon accused him of malversations. He participated in the battle of Delion (424), helped negotiate the Peace of Nicias (421), and was killed at Mantinea. In *The Wasps* Aristophanes satirizes Cleon's charges in the scene where a dog is tried for stealing a Sicilian cheese.

LACHES, làch'ēz, a legal term derived from the Old French *lachesse*, remissness, which in turn was derived from the Latin *laxus*, slack, unreasonable delay, neglect to do a thing or to seek to enforce a right at a proper time. Courts of equity withhold relief from those who have delayed the assertion of their claims for an unreasonable time. The questions of laches depends not upon the fact that a certain definite time has elapsed since the cause of action has accrued, but upon whether, under all the circumstances, the plaintiff is chargeable with want of due diligence in not instituting the proceeding sooner. To constitute laches to bar a suit there must be knowledge, actual or imputable, of the facts which should have prompted action or, if there were ignorance, it must be without just excuse. Laches may be excused from the obscurity of the transaction; by the pendency of a suit; and where the party labors under a legal disability, as insanity, but poverty is no excuse for laches, nor ignorance, and absence from country. Laches on the part of its officers cannot be imputed to the government and no period of delay on the part of the sovereign power will serve to bar its right either in a court of law or equity when it sees fit to enforce it for the public benefit.

LACHESIS, làk'ē-sīs, in classical mythology, one of the three Fates (q.v.).

LACHINE, city, Quebec, Canada, on Montreal Island in the county of Jacques Cartier, 8 miles southwest of Montreal. It is at the lower end of Lake St. Louis, an expansion of the St. Lawrence River below its confluence with the Ottawa and immediately above the Lachine rapids and canal. The importance of the city is industrial and suburban to Montreal, its manufactures employing about 8,000 and producing to the gross value of \$55½ million (1948). Bridge and other construction materials, tools, machinery and steel equipment, chemicals and rubber goods, are the principal products. Hydroelectric power is developed from the canal and the surplus disposed of in Montreal. Lachine commands the shipping of the upper St. Lawrence, all of which must pass through the canal, and is also on the main lines of the Canadian National and Canadian Pacific railways between Montreal and Toronto. It has 4 banks, French and English high schools, and French and English hospitals.

As an early outpost of Montreal it has an interesting history. The rapids from which it takes its name were so called in derision of La Salle who established a trading post on the spot in 1669 and was restlessly seeking a passage to China. In 1687 it was the scene of a terrible massacre of the French by a band of 1,500 Iroquois in which 250 settlers perished. During the 18th and early 19th century Lachine was the assembling point from which the brigades of the fur traders started on their long and adventurous journeys via the Ottawa into the upper Lakes and the far West. Pop. (1951) 27,773.

LACHINE CANAL. See CANADIAN CANALS.

LACHISH, lä'k'ish, Biblical locality, Palestine, in Judaeen Hills. It was destroyed by Joshua and given to the tribe of Judah, and was fortified by Rehoboam. King Amaziah sought refuge there but was slain. Sennacherib, in his campaign against Judah, captured this town and King Hezekiah sent a deputation there with presents to placate Sennacherib. Micah denounced the place as "the beginning of sin to the daughter of Zion," the intent of which is not clear. Its site is identified with Tell-el-Hesi, the hillock excavated by Sir Flinders Petrie and F. J. Bliss (1890-1893) for the Palestine Exploration Fund, some 16 miles east of Gaza.

Consult Flinders Petrie, W. M., *Tell-el-Hesi* and Bliss, F. J., *A Mound of Many Cities*, both published by the Palestine Exploration Fund in 1891 and 1894, respectively.

LACHLAN, läk'län, a river, New South Wales, having its source in the Cullarinrange, 175 miles southwest of Sydney. The river makes a semicircular sweep north of about 240 miles, when, pursuing a generally southwest course, it joins the Murrumbidgee, the united stream afterward falling into the Murray. The total course is about 800 miles.

LACHMANN, läk'män, **Karl Konrad Friedrich Wilhelm**, German scholar and classical philologist: b. Brunswick, March 4, 1793; d. March 13, 1851. As a student at Leipzig and Göttingen his work lay in Italian, English and Old German poetry, as well as in Greek and Latin. As a teacher he passed from various gymnasium positions to professorships in the universities of Königsberg and Berlin. His work

in textual criticism, both in the early German and the classics, was epoch-making. Editions of Walther von der Vogelweide, Wolfram von Eschenbach, Lucretius (his greatest achievement as an epoch-making work), Catullus, Tibullus Propertius, the New Testament and Shakespeare's sonnets and Macbeth deserve mention among his numerous publications.

LACHNER, läk'nēr, **Franz**, German orchestral composer: b. Rain, Bavaria, April 2, 1804; d. Munich, 1890. He studied music at Vienna and was appointed *Vizekapellmeister* (assistant conductor) at Kärntner Theatre (1826) and conductor (1927). In 1834 he went to Mannheim to conduct the opera and became court conductor there (1836), general music director at Munich (1852), retiring (1865) on a pension.

His works are prodigious in number, consisting of an oratorio, a sacred cantata, four operas, requiems, three grand masses, besides other cantatas, entr'actes, etc.

LACHUTE, lä-shōöt', mill town, Quebec, Canada, agricultural marketing center and seat of Argenteuil County, on the North River, 48 miles from Montreal by the Canadian Pacific railway. It has 11 industrial plants (saw, paper and veneer mills, textiles, machine and woodworking shops, etc.), producing to the value of \$2,169,421 (1948); 4,500 horsepower has been developed from the river. There are Protestant and Roman Catholic schools, an academy, 6 churches, a hospital, several hotels, and 4 banks. The town owns a gravity water system and is adjacent to picturesque Laurential Hill. Pop. (1951) 5,500.

LACINARIA, lä-sin-a'ri-a, a genus of plants of the thistle family containing about 30 species of tall perennial herbs growing in dry soil throughout the eastern and central United States and known as blazing-stars and button snake-roots. They bear late in the season dense spikes of purplish flowers, often in the south a foot in length and of a delicate lavender tint very effective when seen in a mass of goldenrod or autumnal grasses. *L. squarrosa* is known as colic-root, and all the species are in repute among the southern country folk, not only as good family medicine in the form of a decoction made from the root, but as a specific against rattlesnake venom.

LACKAWANNA, läk-ä-wön'ä, city, N. Y., in Erie County; altitude 607 feet; on the Baltimore and Ohio and the Lehigh Valley railroads; with water transportation via the New York State Barge Canal and Lake Erie; 9 miles south of Buffalo airport. This is an industrial city working in steel, cement, abrasives, and refractories. It has a Carnegie public library. The beautiful basilica of Our Lady of Victory is visited yearly by millions of Roman Catholics. The city received its charter in 1909; has mayor and council. Pop. (1950) 28,453.

LACKAWANNA RIVER, a considerable stream which rises in the northeast part of Pennsylvania and flows through the valley formed by the Shawnee and Moosie mountains, discharging into the Susquehanna at Pittston; length about 50 miles. Great quantities of the best anthracite coal are mined in the valleys adja-

cent to this river, the entire district being given over to collieries, rolling mills, blasting furnaces and factories, Scranton being the principal town. The greatest thickness of strata belonging to the coal measures amounts in the central portion of the basin to nearly 1,800 feet. On each side they dip toward the central axis at angles sometimes exceeding 30 degrees, gradually lessening till they are found in horizontal and undulating positions near the center.

LACLOS, là-klô', Pierre Ambroise Francois Choderlos de, French author: b. Amiens, Oct. 19, 1741; d. Tarent, Nov. 5, 1803. He was a captain of artillery and private secretary of the Duke of Orleans, becoming notorious through his obscene novel *Les liaisons dangereuses* (Amsterdam and Paris 1782). He was editor of *Journal des amis de la Constitution* (1791) and was made (1792) brigadier general. He got entangled in the Duke of Orleans case, but Robespierre spared him, and he became inspector general of the Army of Southern Italy.

LACMUS. See LITMUS.

LACOLLE MILL, Battle of, in the War of 1812. Shortly after Gen. Wade Hampton went into winter quarters following the Battle of Chateaugay, Gen. James Wilkinson went to Plattsburg and wrote a letter to the secretary of war demanding a review of his conduct by a court-martial. Pending a reply he determined to strike a blow at Montreal, the road to which was barred by small garrisons at St. John and Isle Aux Noix and by outposts at Lacadie and Lacolle. At Lacolle were 200 troops stationed in a stone mill with thick walls and solid front. On March 30, 1814 Wilkinson led 4,000 men and two 12-pound field guns against the mill. The gunfire inflicted no damage, whereupon, having received reinforcements from Isle Aux Noix, the British garrison made two sorties, but were repulsed, and the Americans continued their bombardment. As the British now numbered about 1,000 troops and as his losses amounted to 200 and little damage was being done by the guns, Wilkinson ordered a retreat and returned to Champlain. The British loss was 11 killed, 46 wounded and 4 missing. Wilkinson was then relieved of duty and Gen. George Izard (q.v.) took command.

LACON, là'kûn, city, Ill., and Marshall County seat, altitude 501 feet, on the Illinois River, the Gulf Mobile and Ohio Railroad, and a state highway; 30 miles north of Peoria and 128 miles southwest of Chicago. It stands at the head of navigation in the Illinois River, and has grain elevators and other shipping facilities. Its manufactures are woolen goods, cement blocks, and soft drinks. Government is administered by a mayor and council. It has public library facilities. Both the city and the county have jails at Lacon. Lacon is connected by a bridge to Sparland across the Illinois River. Pop. (1940) 1,627; (1950) 2,020.

LACONIA, là-kô'nî-à, the name for a large tract of land granted by royal patent to Ferdinand Gorges and John Mason in 1622. It was located between the Merrimac and Kennebec rivers, the ocean and the St. Lawrence River

of Canada. The present State of New Hampshire formed a considerable portion of Laconia.

LACONIA, a territory in ancient Greece. See SPARTA.

LACONIA, city, New Hampshire, and Belknap County seat, altitude 503 feet, on the Winnepesaukee River, the Boston and Maine Railroad, and state and federal highways; 27 miles north of Concord and 97 miles north of Boston. Its transportation facilities include a municipal airport. Among its manufactures are textile machinery, castings, skis and other sport goods, hosiery, needles, shoes, wood turnings (tees, handles, toys), wool products, and veneer board. The city is governed by a mayor and council. There are two public libraries: Gale Memorial, with a notable collection of Indian relics, and the Goss Reading Room.

Laconia has a radio station, a daily newspaper, a city hospital, and a state hospital for mentally retarded children. An interesting historical relic is Endicott Rock, a flat stone on which, in 1652, a party of surveyors carved the name of Governor Endicott.

Laconia was settled in 1761 by English people from southern New Hampshire, was incorporated as a town in 1855, and chartered as a city in 1893. On Lakes Winnepesaukee, Pausus, Winnisquam, and Opechee, Laconia, called "The City on the Lakes," is both a summer and a winter resort. Pop. (1940) 13,484; (1950) 14,745.

LACORDAIRE, là-kôr-dâr', Jean Baptiste Henri, French preacher: b. Recy-sur-Ource, March 12, 1802; d. Sorèze, Nov. 22, 1861. After studying law in Paris he began practice in that city. He was in religion a deist of the Voltairian school, and it was only after reading the *Essai sur l'Indifférence en Matière de Religion*, by Félicité Robert de Lamennais, a plea for Christianity as necessary for social progress, that he determined to become a priest. Entering the Seminary of St. Sulpice in 1824 he was ordained priest in 1827. In 1835 he was appointed preacher at Notre Dame, where his sermons attracted crowded congregations. He was, however, bent on a wider project, the revival of the Dominican order, the great order of preachers in France. With this view he revisited Rome in 1838, and after the usual novitiate became a Dominican. The Dominican is originally a Spanish order, and was never popular in France, and Lacordaire, who was appointed provincial of the order in 1850, had little success in establishing it there.

He was in 1848 elected a member of the National Assembly. He was, however, rebuked by his bishop for calling himself a Republican and retired from politics in 1852.

His honest indignation against the *coup d'état* expressed in a sermon roused the animosity of Napoleon III, and he was driven from the pulpit and became director of the Lycée at Sorèze. He was elected to the Academy in 1860. A collected edition of his works appeared at Paris in nine volumes in 1872.

LACOSTE, Sir Alexandre, Canadian jurist: b. Boucherville, Jan. 12, 1842; d. Montreal, Aug. 17, 1923. He was educated at the College Saint Hyacinthe and at Laval University and was called to the bar in 1863. He sat in the Legis-

lative Council of Quebec 1882-1884, became a Dominion senator in 1884 and chief justice of the Queen's Bench of Quebec 1891-1907. He was knighted in 1892.

LACQUER AND LACQUERWORK.

Lacquer or lackerwork is a process which originated in China but was brought to its greatest perfection in Japan. It is a species of natural varnish which, when applied to wood or metal, makes the surface impregnable to moisture, alcohol, or other damaging elements. The term comes from "lac," a resinous substance secreted by the *Tacchardia lacca*, a scale insect native to India, from which shellac is made. But the basic material of lacquer is vegetable rather than animal—the sap of a variety of sumac tree, the *Rhus verniciflua* (*R. vernicifera*, de Candolle) found in Japan, China, and in the Himalayas. The Japanese tap this tree (also called varnish tree and lacquertree) once in ten years, between June and September. They also tap the branches for sap from which they make a size called *Seshime-urushi*.

CHINA

A Chinese treatise of the Ming period states that lacquer was originally used for writing on bamboo slips, the earliest form of books. During the Chou dynasty, 1027-256 B.C., food utensils were made of black lacquer. A little later lacquer was employed for carriage decorations and leather trappings under official regulations. Remains have been found which show that in the earlier Han dynasty (202 B.C.-9 A.D.) pot covers were made of red lacquered paper. The Chinese made both painted and carved lacquer. In their decoration they used flowers and foliage, for the most part, highly conventionalized, as well as the four supernatural animals, the Dragon, Phoenix, Tortoise, and the Unicorn. The most plausible reason for the inferiority of Chinese lacquer to Japanese seems to be that the Chinese tap the lacquer tree at any time, while the Japanese do it when the sap is at its best. The development of the arts in which lacquer plays an important part in Japan, divides roughly into five periods.

JAPAN

Heian Period (784-1184 A.D.).—Lacquerwork developed into a fine art beginning with the establishment of the seat of the imperial government at Kyoto. It was used in the decoration of so important a building as the Hōōdō, and of the Byōdōin at Uji, a 9th century villa converted into a monastery by Fujiwara in 1053. Statues also were made of lacquer composition for a time but this was soon given up in favor of carved wood. Edicts were issued regulating the planting and registration of lacquer trees, the acceptance of lacquer as part payment of taxes, and the appointment of officials to superintend the industry. By 905, the dimensions and quantity of lacquer that could be used for a given object were specified.

Kamakura Period (1185-1333 A.D.).—With the victory of Yoritomo over the Taira at the Battle of Dan-No-Ura, a new government was set up at Kamakura. During this regime great strides were made in the technical processes, such as the use of inlay in gold, silver, and shell. Another process which was developed at this time was that of carved wood thickly lacquered in red or black which is called *Kamakurabori*. A third development of this period, to which the Japanese

themselves attach great importance was the manufacture of domestic utensils in polished black or red lacquer. This work was done exclusively by the monks of the Temple of Negori-ji Kii, and these articles were known as *Negori-nuri ware*.

Ashikaga Shogunate (1338-1573).—The overthrow of the Kamakura Shogunate, and the destruction of the town of Kamakura itself, gave way to a new regime under Ashikaga Takkanji who established his capital at Kyoto. Although a turbulent period in Japanese history, great strides were made in Japanese art. Lacquer decoration in relief (*takamakiye*) was developed and perfected. Shogun Yoshimasa in 1451 retired to Higashiyama, Kyoto, to devote himself to a life of luxury. He greatly encouraged the tea and incense ceremonies. Out of this several new forms of objects in lacquer developed, such as the date-shaped tea jar, or *natsume*. Rumors of the perfection of Japanese gold lacquer had by this time reached China, and Chinese artisans hastened to Japan ambitious to acquire the new technique.

Momoyama (1574-1602).—At the beginning of this period the civil wars broke up what we could call the lacquer guilds, and resulted in the formation of an independent school founded by Honami Kōetsu. This school specialized in simple but striking designs executed in high relief, and the use of large masses of metal or shell inlay. One writer suggests that this style took its inspiration from the illuminated sutras of the 12th century.

Tokugawa Shogunate (1603-1867).—Upon the death of Hideyoshi, power was seized by Tokugawa Shogun, Ieyasu. In 1637 Christianity was eliminated from the country and foreigners were barred. The history of Japanese lacquer from about 1600, resolves itself into the work of individual artists or families such as the famous Koma family whose founder Koma Kitō ye, was appointed Court Lacquerer to the Shogun Iemitsu in 1636, and whose successors held this appointment for eleven generations.

NEAR AND MIDDLE EAST

In the Near East lacquer was in general used merely as a varnish to protect painted surfaces as wall pannels or portraits and hunting scenes on small coffers, somewhat in the manner of Italian cassoni. One of the Egyptian caliphs, however, about 1131 built a belvedere near Cairo of lacquered wood and decorated with the portraits of his favorite poets. Lacquerwork was introduced into Persia from Cathay. Tamerlane, or Timur the Mongol conqueror, is said to have used lacquer work in the decoration of a palace which he built for one of his wives at Samarkand about the year 1400. During the 16th century, book bindings, pen boxes, and ink pots were beautifully decorated with hunting scenes, gardens, and flowers. But these uses of lacquer were comparatively rare and it was not until the decadent period of the 18th and 19th centuries that lacquerwork came into its own in the Near and Middle East. Nothing exceeded its popularity at this time but carpets. Every kind of object was painted and lacquered often with a mixture of European Biblical scenes and Persian erotica.

EUROPE

Tradition has it that European lacquer was invented and first used in Holland by the celebrated Christian Huygens or Huyghens (1629-

1695). However, before his epoch Oriental lacquer had been imported into Europe by Dutch traders. In 1605, Louise Coligny (1555-1620), dowager princess of Orange, who never neglected an opportunity to revisit France, brought from Holland, as a present to the dauphin, a Chinese panel, inlaid, gilded and painted, and decorated with Chinese fruits, flowers, and birds.

If the Dutch deserve credit for first inventing European lacquer, the French were not far behind them in developing its uses. In 1713, Dagly, a native of Spa, obtained a patent for the privilege of using certain lacquers, which he claimed to have invented, at the Gobelin factory. But the most famous of the European lacquerers were the Martin family of four brothers—Robert, Guillaume, Simon-Étienne, and Julien. They began by imitating Japanese pieces—works in relief in black lacquer decorated in gold. In 1733 Robert Martin (1706-1765) was made "Varnisher to the King." In 1744, there was an "*arrêt du Conseil*," which gave Simon-Étienne the exclusive right, for twenty years, to do all kinds of relief in the style of Japan and China. Their experiments in lacquer and varnish were so successful that they invented a varnish considered superior to the Japanese lacquer. The Royal Archives confirms this by listing in its inventory of furniture a secretary *vernissé de Martin* in the Japanese style with a design of flowers and foliage in gold on a red background. In the second half of the 18th century, there were three Martin factories in Paris, each supposedly presided over by one of the sons of Robert, one of whom took the title of "Varnisher to the King of Prussia," and was one of the group who decorated Frederick the Great's Sans Souci.

ENGLAND

Because of her interest in teapots and Chinese porcelains, Queen Mary, the consort of William III, has been credited with introducing the fad in England. While she may have made the style fashionable, it seems rather unlikely that she introduced it in England. Mary was not crowned until February of 1689, and the furnishing of Hampton Court was still in progress in 1695 when Celia Fienes made her tour through it. On the other hand, J. Stalker had published his *Treatise of Japanning* at Oxford in 1688. It seems hardly possible that Stalker would have felt justified in bringing out so imposing a treatise, the first in English, if there had not been an active interest in the subject. In his epistle to the reader he says "That Island [Japan] not being able to furnish these parts with work of this kind, the English and Frenchmen have endeavored to imitate them; that by these means the Nobility and Gentry might be completely furnished with whole sets of Japan-work, whereas otherwise they were forced to content themselves with perhaps a screen, a Dressing-box, or Drinking-bowl or some odd thing that had not a fellow to answer it." By 1692 the practice was well established, as in that year the *London Gazette* listed, "The places appointed for receiving Guns and Pistols . . . or other Ironwork to be Lacquer'd." In England, lacquerwork from the beginning was so popular with amateurs that by the middle of the 18th century it was dubbed "The Ladies Amusement." Pepys, in 1699 makes a note of a call on two ladies and adds, "They are also full of respect towards Mrs. Skynner and indeed have refined to the last degree upon her Book of

Japanning." Hampton Court had a complete room paneled in lacquer. Celia Fienes writes "one room was pretty large and at ye four corners were little rooms like closets or drawing rooms, one pannell'd all with jappan." Lacquered furniture was especially popular in England from about 1690 to 1730. It was made of deal or oak, often veneered, then ornamented, sized and finished with English varnish. Most of the English publications put out in the 18th century give recipes for making the varnish such as that in the *Ladies Amusement or the Art of Japanning Made Easy*. They advise spirits of wine as a base, "put some in a spoon and put a little Gunpowder in; and if it burns out, blows up the Gunpowder and leaves the spoon clean, then its a good spirit." The American publications were more conservative and did not come out until about 1800. One of these, published in Concord, gives a recipe for shellac varnish for japanning: "To one quart of the best alcohol, add half a pound of the thinnest and most transparent gum shellac, mix and shake together and let stand in a warm place for two or three days, then strain through a fine flannel."

Lacquered furniture was not brought direct to America from the Orient until the *Empress of China* made its round trip in 1784, the first American ship to enter the China trade. Articles in this ware had however been imported from England as the *New York Gazette* advertised in 1754: "Just imported a choice assortment of India, Japan gilded tea tables. . . Also tea tables with sets complete of cups and saucers in boxes for little Misses." The lacquer furniture made in America had a maple or pine wood base. They achieved their effect by painting the surface with paint, metal leaf and powder. Over this was painted the protective varnish made with a base of either spirits of wine or alcohol.

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LACQUERS, Industrial.—Modern industrial lacquers are known for their brilliant durable coatings. They contain primarily a soluble cellulose compound, resins and plasticizers. These ingredients are dissolved in a mixture of volatile solvents and diluents (nonsolvents). Pyroxylin, cellulose acetate, ethyl cellulose, cellulose acetate butyrate, and cellulose acetate nitrate are the most commonly used tough film-forming ingredients. Plasticizers are incorporated to impart flexibility, and resins to give luster, adhesion, durability, and water-resistance. A careful balancing of the solvents and nonsolvents insures constant homogeneity during the rapid drying. In colored lacquers, pigments produce opacity and color and enhance the gloss. Stabilizers are also added to insure resistance to deterioration from light.

The term lacquer was formerly applied to any coating material which dried quickly to a finish resembling Oriental lacquers. Today, however, the word is used almost exclusively for the modern type of compositions described above.

The first cellulose derivative incorporated in lacquers was pyroxylin or cellulose nitrate (often incorrectly called nitrocellulose or nitrocotton). Alexander Parkes received a patent in 1852 for applying solutions of it to fabrics, but it was not until 1886 that such compositions were first manufactured in the United States by the F. Crane Chemical Co. The spraying of lacquers was developed in 1903. Nevertheless usage continued to be limited to thin coatings for silverware, brass fixtures, straw hats and novelties until the end of World War I because of the high viscosities of available solutions. Its use as an airplane dope during the war, however, led to many new developments including cheap solvents, new resins and low viscosity cellulose compounds. This resulted in a very extensive expansion of the manufacture of lacquers after the war in meeting a demand for rapid-drying industrial finishes. This growth still continues both in importance and volume.

The automobile and railroad industries employ lacquers for both exterior and interior finishes. The exterior coatings must naturally withstand the most severe treatment from both weather and usage. A careful selection of plasticizers and resins has made it possible to produce the necessary properties. Where the lacquers are used for the fabrics or wire wheels greater amounts of plasticizers are incorporated. Even felt-like finishes for interior accessories are obtained by spraying lacquers containing suspended fibers.

Another large field of use is refrigerator lacquers. Films of these must remain perfectly white, withstand low temperatures and resist all types of deterioration. Here, stoving is essential to develop the required firm characteristics.

The furniture industry has also greatly saved time and labor by the use of these materials. Clear lacquers are employed where the natural effects of metal or wood are desired, but large quantities of pigmented lacquers (lacquer enamels) are used on office furniture. These finishes must have good adhesion and not soften under hot dishes or pressure. Asphalt or chlorinated rubber are added to the compositions when the furniture is to be exposed to chemicals as in laboratories. Much heavier films are applied during a single spraying than in other industries.

The leather and textile industries employ a wide variety of lacquer compositions to meet their many needs. Here, large proportions of processed oils, such as blown castor oil, are added to the lacquer to obtain the desired flexibility, while only limited quantities of resins are needed for adhesion. In the manufacture of imitation leather or leather cloth, the coatings are applied by knife to a stretched fabric. Many other fabrics are also finished or dressed with lacquers to improve their appearance, strength and weight. Resistance to moisture, soiling and creasing, and protection of tinsel decorations against tarnishing are obtained in this way. Some colored goods are printed with lacquer enamels.

Another growing field of use is that of packaging where lacquers are employed for imparting moisture resistance to cellophane, cardboard and paper. Cheap transparent, heat-sealing packages are made in this manner for preserving foods. Special nontoxic, alkali- and grease-resistant wrappers for medicines, soap and similar products are produced with ethyl cellulose lacquers. Special lacquers which can be easily removed by

peeling are applied to metal articles to prevent corrosion during storage and shipment.

Ethyl cellulose lacquers were used during World War II as coatings for aircraft, raincoat guncovers and identification markers because of their marked resistance to extremes and sudden changes in temperatures. Besides these, they were used for fluorescent blackout coatings.

Lacquers are also employed in the manufacture of plastic wood, various cements, foils, transfers, high tension ignition cables, high-speed ink and as bronzing vehicles. Special products are now available for coating organic plastics. Realistic three-dimensional effects are obtained by decorating recessed designs cut into the reverse side of transparent moldings.

Crackled or marbled effects and crystallized patterns are also produced for various applications. The crackled coating is obtained by applying a lacquer of one color which contracts and cracks during drying over a smooth finish of another color. Crystallized effects are produced by dissolving substances such as naphthalene in the lacquer so that they will form large crystal line designs within the film as it dries. Lacquer with a minimum amount of solvent are now manufactured for spraying at elevated temperatures up to 70°F. This reduces solvent losses and some of the attendant hazards of spraying. Gel products which liquefy upon warming are made for applying thick films by dipping to wooden handles of tools and the like.

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WILLIAM HOWLETT GARDNER.

LACRETELLE, là-krê-tèl', Jacques de French novelist: b. Cormatin (Saône-et-Loire) July 14, 1888. A realist and noted for his psychological novels, especially *Silbermann* (1922) and *La Bonifas* (1925), in 1932-1935 he published a tetralogy *Les Hauts-Ponts* based on a woman's passionate attachment to her family estate. Member of the French Academy, 1938.

LACRETELLE, Jean Charles Dominique de, called **LACRETELLE LE JEUNE**, French historian and journalist: b. Metz, Sept. 3, 1766; d. Mâcon Mar. 26, 1855. The brother of Pierre Louis de Lacretelle (q.v.), he was for a short time a lawyer at Nancy, then went to Paris where, in 1790, he joined the staff of the *Journal des Débats* subsequently becoming secretary to the duc de La Rochefoucauld-Liancourt. A leader of the young royalists of the last days of the Convention and under the Directory, for whom the epithet *Jeunesse dorée* was coined, Lacretelle was forced to go into hiding after the 13th Vendémiaire. Arrested and imprisoned, after the 18th Brumaire he was freed by Fouché. Thereafter he devoted himself to writing. Elected a member of the Académie française in 1811, the following year he became professor of history in the faculty of letters of Paris. He welcomed the restoration of the monarchy in 1814, was rewarded with the title of royal censor and in 1822 with a patent of nobility. However, in 1827 he was the prime mover of the Academy's protest against the press censorship act and lost his official post. In 1848 he retired to Mâcon. Among his historical works are *Histoire de France pendant le XVIIIe siècle*

(1795); *Précis historique de la Révolution française* (1801–1806); *Histoire du Consulat et de l'Empire* (1846).

LACRETELLE, Pierre Louis de, French juriconsult and publicist: b. Metz, Oct. 9, 1751; d. Paris, Sept. 5, 1824. The son of a lawyer attached to the Parliament of Nancy, he became a member of the bar of that city in 1777. The following year he went to Paris where he collaborated with a fellow-Lorrainer, J. N. Guyot, on the latter's *Répertoire universel et raisonné de jurisprudence civile, criminelle, canonique et bénéficiale* (1775–1786). A member of the Commune of Paris, deputy to the States General, and member of the Legislative, he defended the Constitution of 1791. During the Directory he held high offices but was out of public life during the Empire. With Benjamin Constant and others he helped to edit the short-lived *Minerve Française* (1818–1820). His works include *Discours sur la multiplicité des lois* (1778) and *Du système de gouvernement* (1797).

LACROIX, là-kraw, Paul (pseudonym PIERRE DUFOUR and BIBLIOPHILE JACOB), French historian and novelist: b. Paris, Feb. 27, 1806; d. there, Oct. 16, 1884. He wrote under the nom de plume P. L. JACOB, BIBLIOPHILE, and is best known under that name. He was a prolific writer. His novels are on romantic history subjects. He edited (from 1829) in collaboration with Pichot *Mercur du XIX^e siècle* and founded (1830) *Gastronome* and *Garde national*. In cultural art he published a series of richly illustrated works, among them *Costumes historiques de la France*, 10 vols. (1852); *Le Moyen Age et la Renaissance*, 5 vols. (1847–1852); *Mœurs, Usages et Coutumes au moyen Age et à la Renaissance* (1871); *Vie Militaire et Vie Religieuse au Moyen Age* (1872); *Mœurs et Usages* (1883).

LACROIX, Sylvestre François, French mathematician: b. Paris, 1765; d. there, May 25, 1843. He was (1787) instructor at the Paris Military School, became (1788) professor at the artillery school at Besançon and examiner (1793) of artillery officers. In 1794 he was appointed chief of the Bureau of Committee for the Restoration of Public Instruction, and professor of mathematics at the Ecole Normale. He was appointed (1799) professor of the Polytechnic School and then professor of mathematics at the university, and in the same capacity (1815) at the Collège de France. He resigned from most vocations in 1821.

He wrote many books of instruction, also *Traité du Calcul Différentiel et du Calcul Intégral*, 3 vols. (Paris 1799); *Traité des Différences et des Séries* (1800); *Traité Élémentaire du Calcul des Probabilités* (1816); *Cours des Mathématiques* (1797–1816). These books were translated into German because of their clear style.

LACTANTIUS FIRMIANUS, lăk-tăn'shî-ŭs fŭr-mi-ă'nŭs, often called the Christian Cicero, on account of his pure Latin style, lived in the last half of the 3d century and at the beginning of the 4th. Constantine the Great made him tutor of his son Crispus. His most important work is the *Disinarum Institutionum Libri Septem*, a manual of Christian doctrine written to defend the religion to which he had been converted.

His works appear in Jacques Migne's *Patrologia Cursus Completus*, and have also been edited by G. Laubmann and S. Brandt (Vienna 1891).

LACTARENE, or **LACTARINE**, lăk'tă-rĕn, the casein of milk as commercially prepared by being freed from fat, precipitated by an acid, thoroughly purified, dried and powdered. It is insoluble in water, but is soluble in an alkali, such as ammonia, and in this form is used, like albumen, for fixing pigment colors in calico-printing. The cloth, after it has been printed, is steamed, the ammonia is driven off and the pigment is thereafter able to resist the action of water.

LACTASE, a soluble enzyme found in the animal body which hydrolyzes lactose to dextrose and galactose.

LACTATION. See MILK, HUMAN.

LACTEALS, lăk'tĕ-ălz, vessels which, together with the lymphatics, constitute one system for conveying a fluid or fluids from various organs of the body to the veins near their terminations in the heart. The fluid which the lacteals convey is milky after a full meal, and is called chyle, though during intervals of fasting it is a yellowish lymph, as in the lymphatics. The lacteal vessels commence on the intestinal villi, unite with one another in the mesentery and, after leaving the mesenteric glands, discharge their contents for the nourishment of the body into the receptaculum chyli, in front of the second lumbar vertebra. See also LYMPH; LYMPHATIC GLANDS.

LACTIC ACID (C₃H₅O₃). Karl Wilhelm Scheele, in 1780, was the first to describe the acid present in sour milk. In 1832 Justus von Liebig and Eilhardt Mitscherlich showed it to be a distinct acid. Lactic acid is widely distributed in nature, occurring in the sap of several plant families, in sour milk, in the saliva, blood and urine, and the brain and gastric juice of animals. Lactic acid is a result of the fermentation of the various sugars, and of dextrin and mannitol. There are many modes of preparing it artificially; and its isomeric varieties, of which four have been described, have excited much attention. Its two principal kinds are fermentation lactic acid and paralactic or sarcolactic acid. The former is got from concentrated sour whey by removing the curd, adding lime, filtering, diluting with water, removing the lime with oxalic acid, evaporating and extracting the lactic acid with alcohol. It is more usual, however, to get it by what is called the lactic fermentation, from sugar or saccharine substances. The sugar is dissolved in water; to the solution is added sour milk or decaying cheese and a quantity of fine, well-washed prepared chalk, and the mixture is kept for about four weeks at between 86° and 95° F. Fermentation ensues and much lactic acid is formed, which combines with the chalk and forms lactate of calcium. This salt is then decomposed by sulphuric acid, filtered, and the fluid is boiled with carbonate of zinc. Lactate of zinc is formed, which is collected and decomposed by sulphureted hydrogen. The fluid filtered from the sulphide of zinc is evaporated, and the sirupy fluid which remains contains the lactic acid. Lactic acid of commerce is a sirup (specific gravity, 1.215) which contains a small percentage of water. It remains liquid even at very low temperatures. It

deliquesces in moist air, dissolves in all proportions in alcohol and water, has no odor and has a purely sour taste. It cannot be distilled, or even heated, without undergoing decomposition, lactic anhydride or lactolactic acid being formed; at a higher temperature carbonic oxide is evolved, and a variety of products distil over, and charcoal is left in the retort. By oxidizing agents, such as bleaching-powder and nitric acid, it is converted into oxalic acid; by oxide of manganese into aldehyde.

The paralactic or sarcolactic acid was observed in flesh by Berzelius in 1806, and he considered it the same as that derived from milk. Liebig showed that they were not absolutely identical, but the nature of their differences is at present unknown. This acid is readily got from the cold aqueous extract of meat by adding a solution of baryta, coagulating and removing albumen, concentrating the solution, precipitating the baryta, filtering and evaporating. The syrupy residue contains the acid. Paralactic acid can be distinguished from lactic acid by its property of rotating the plane of polarization to the right, lactic acid being inactive. The calcium salt of the fermentation acid contains more water of crystallization; when heated it retains it for a shorter time; and it is more soluble than the sarcolactate. Again, the zymolactate of zinc contains more water, loses it more quickly on heating, but itself endures a much higher temperature without decomposition than the sarcolactate. The zymolactate is much less soluble in water and in alcohol than the other; the crystalline forms of the two salts also are different. The other salts of lactic acid are for the most part crystalline, and soluble in water. Lactic acid forms compound ethers and substitution acids.

In the arts, lactic acid is used in the dyeing of wool when mordanting with potassium dichromate, supplanting tartaric and oxalic acids. It is less corrosive, and imparts a finer feel and lustre. With an equal part of potassium lactate it forms lactolin, regarded as superior to the plain acid. Lactic acid is a solvent for several dyestuffs which are insoluble in water, and is of special use in the dyeing and printing of cotton textiles. It is also used in the tanning industry, in coloring, bating and plumping the skins, to which it imparts a fine grain. In the distilling industry it is used to check the development of deleterious bacteria.

In *medicine*, lactic acid is used in laryngeal tuberculosis, and diluted with six parts of water, it is applied locally in diphtheria and croup to dissolve the false membrane. It is also used as a local application in tuberculous ulcers, lupus and epithelioma.

LACTIC FERMENT, a minute organism which, under the microscope, is seen to consist of small elliptical cells, generally detached, but sometimes occurring in chains of two or three. It is developed in milk when it is allowed to stand for some time, and is the cause of the milk becoming sour, the sugar of the milk into lactic acid. It is also developed when cheese is added to a solution of sugar, and kept at a temperature of 35° to 40°. See also **FERMENTATION**; **LACTIC ACID**.

LACTOMETER, or **GALACTOMETER**, an instrument for ascertaining the different

qualities of milk. Several instruments of this sort have been invented. One consists of a glass tube one foot long, graduated into 100 parts. New milk is filled into it and allowed to stand until the cream has fully separated when its relative quantity is shown by the number of parts in the 100 which it occupies. Another is a specially constructed hydrometer used to determine the specific gravity of milk for the purpose of detecting adulteration with water. It has been learned by experience that the specific gravity of the milk of healthy cows does not fall below 1.029. See **ADULTERATION—MILK**.

LACTOSE, sugar of milk ($C_{12}H_{22}O_{11}$), a substance obtained by evaporating whey, filtering through animal charcoal and crystallizing. It forms hard, white, semi-transparent trimetric crystals, which have a slightly sweet taste, and grate between the teeth. It is convertible like starch into glucose by boiling with very dilute sulphuric acid.

LACTUCARIUM, the brown viscid juice of the common garden lettuce, obtained by incision from the leaves and flowering stems, and dried in the air. It is a mixture of various substances, including lactucine, lactucin, lactucic acid, mannite, albumin, etc. Lactucarium is hypnotic, anti-spasmodic and sedative, and has been recommended in cases in which opium is inadmissible, particularly for children. It has been administered with advantage in chronic rheumatism, diarrhoea and asthma, in doses of two to five grains.

LACUNAR, la'kū'nār, the Latin word defines a wainscoted and gilded ceiling, a panel-ceiling, and obtains its intent from the *sunken spaces* (coffers) of the paneling. It applies in architecture also to the under surface of the member of an order, the under side of the larmier or corona of a cornice, etc.

LACUSTRINE DEPOSITS, sediments laid down in lakes. They may be gravels consolidated into conglomerates, sands into sandstones, clays into shales, or marls into limestones. See **LAKES**, section on *Lakes* in article on **GEOLOGY**, and section on *Sedimentary Rocks* in article on **ROCKS**.

LADAKH, la'dāk', India, a province of Kashmir including the valley of the upper Indus and its tributaries. It is located between the Himalayas and Karakorum and has a climate ranging from fierce heat in the day time to icy nights. Vegetation is hindered by the dryness of the atmosphere, grain and fruit growing being restricted to the sheltered valleys and then only in stunted growths; and forests are few. The area is about 8,000 square miles, all at a great elevation, from 9,000 to 14,000 feet. A number of salt lakes furnish an endless supply of borax. Its game consists of wild horses, ibex, wild sheep, hares, etc. Goats supply a short wool which is used in the production of shawls. The inhabitants, 186,656, approximately, are small, unclean Turanians, strong of body and for the most part agriculturists. They are Buddhists and each village has its monastery. Except by the wealthy, polyandry is the rule. Commerce consists chiefly of the passage through from China of wool, tea, gold dust, silver, Indian cotton, skins, leather, grain, fire-arms, etc.; but native wool.

borax, sulphur and dried fruit are exported. Consult Cunningham, 'Ladakh, physical, statistical and historical' (London 1854); De Bourbel, 'Routes in Jammu et Kashmir' (Calcutta 1897); Adair, 'Sport and Travel in Baltistan and Ladakh' (London 1899); Younghusband, 'Kashmir' (London 1911); Neve, 'Thirty Years in Kashmir' (New York 1913).

LADARIO, la'da-ryō, an arsenal and small town in Matto Grosso, Brazil, about five miles east-southeast of Corumbá on the Paraguay River; one of the three arsenals of the Brazilian navy. See BRAZIL — NAVY.

LADD, George Trumbull, American educator: b. Painesville, Ohio, 19 Jan. 1842; d. 8 Aug. 1921. The Ladds, originally of Norman French extraction, intermarried with the Welsh family of Williams and the name appears in English history as early as the 13th century. Dr. Ladd was a lineal descendant, through the paternal line, of Elder William Brewster and Gov. William Bradford. He was graduated at Western Reserve University, A.B., in 1864; A.M., in 1867; and his honorary degrees were D.D. (1879), LL.D. (1895), Andover Theological Seminary; A.M., Yale (1881); LL.D., Princeton (1896). After graduation at Western Reserve University he spent two years in business, and then entered Andover Theological Seminary, whence he graduated in 1869. In 1869-71 he preached in Edinburg, Ohio, and in 1871-79 he was pastor of Spring Street Congregational Church, Milwaukee, Wis. In 1879 he was called to the chair of philosophy at Bowdoin College, and held that position until he became professor of philosophy at Yale College in 1881. After the death of President Porter (1892) he was made Clarke professor of metaphysics and moral philosophy, which position he held until 1906, when he resigned. His services to the cause of education carried him, at various times, beyond Yale. During the academic year 1895-96 he was chosen a member of the faculty of Harvard University and conducted the graduate seminary in ethics, and in 1906-07 he was substitute professor in Western Reserve University; thereafter, much of his time was spent in lecturing and travel upon important educational missions in foreign lands. Twice he was invited by the Imperial Educational Society of Japan to deliver courses of lectures, and in the summer of 1892 and again in 1899 he visited and lectured at Doshisha, Kyoto, Tokio, Hakone and Kobe. In this period Professor Ladd for 16 months delivered courses in the Imperial Universities of Tokio and Kyoto, and in Count Okuma's and other private universities, and in the government business colleges where he spoke on "Commercial Ethics," and made many other public addresses. His lectures on "Commercial Ethics" were later adopted as a textbook, and his other writings have been adopted as textbooks in Russia and other countries, as well as in Japan and India. In the spring of 1907 he went to Korea as guest and "unofficial adviser" of Marquis Ito, returning to the United States by way of Honolulu, where a month was spent in lecturing to teachers. For his services to the cause of education in Japan he was thrice admitted into audience with the emperor, the last in private when he was invested with the third degree of the order of

the Rising Sun. He was elected Gold Medalist of the Imperial Educational Society, and on the occasion of his third and last visit received the second degree of the order of the Rising Sun at the hands of the emperor.

In 1899-1900 he lectured on philosophy before the University of Bombay, India, and on the philosophy of religion at Calcutta, Madras, Benares and elsewhere. The lectures in Convocation Hall, Bombay University, were unique, inasmuch as no one before that time had lectured under its auspices, which honor was, in part, an official justification of the substitution of Professor Ladd's books for those of Herbert Spencer as required reading for the M.A. degree. His visits to Japan, and especially to Korea in the critical time of the readjustment of the political and social relations of the two countries, constitute an important factor in their history.

His contributions to the science of psychology and philosophy are widely known. He was one of the founders of the American Psychological Association, was its second president and its delegate to the International Congress at Paris in 1910. Among the most permanent of his achievements is the founding of the psychological laboratory at Yale, which, under his guidance, became one of the best equipped in the world. Up to the time of his resignation in 1906 there proceeded from Yale a continuous stream of teachers of philosophy, whose success has been largely due to the teaching and influence of Professor Ladd.

His position in American philosophy is sufficiently indicated by the appended list of his works. By some critics he has been erroneously called a disciple of Lotze and Porter, a theological apologist and defender of the traditional views, none of which appraisements is supported by the facts of his mental development. The fact is Ladd never studied with either Lotze or Porter, or became acquainted with their works until he had been a student of philosophy for 20 years. For many years he devoted himself to his great work, 'The Doctrine of Sacred Scripture,' from which, when completed, he turned exclusively to the problems of philosophy; but at no time was he anybody's disciple, or adopted any system, still less did he found any "school." His freedom from scholastic bias, combined with sagacity of judgment and catholicity of taste, accompanied by great patience and capacity for hard work, which were the strongest marked elements of his personality and temperament, scarcely warrant his being called a "dogmatist," but rather a "critical realist," or "radical rationalist."

Professor Ladd's published works include volumes on technical theology, psychology, philosophy and education. Besides these works he wrote extensively on his travels in Japan, Korea and India, and on questions connected with politics and the Great War, upon social criticism and practical ethics. He was also a frequent contributor to the technical journals, whose indices will serve as guides. His more important publications are 'Principles of Church Polity' (1882); 'Doctrine of Sacred Scripture' (1884); 'Outlines of Philosophy' (trans. of Lotze, 5 vols., 1887); 'Elements of Physiological Psychology' (1887, revised with R. S. Woodworth 1914);

What is the Bible? (1888); *Introduction to Philosophy* (1889); *Outlines of Physiological Psychology* (1890); *Philosophy of Mind* (1891); *Primer of Psychology* (1894); *Psychology Descriptive and Explanatory* (1894); *Philosophy of Knowledge* (1897); *Outlines of Descriptive Psychology* (1898); *Essays on the Higher Education* (1899); *Lectures to Teachers on Educational Psychology* (in Japanese); *Philosophy of Conduct* (1902); *What Can I Know? What ought I to Do? What Should I Believe?* (1914-1915).

LADD, William, American advocate of international peace: b. Exeter, N. H., May 10, 1778; d. Portsmouth, N. H., April 9, 1841. He was the son of a wealthy sea captain and after graduating from Harvard College (1797) he followed his father's profession, taking command of a large brig from Portsmouth. He was briefly involved in a free-labor experiment in Florida as a prospective means of abolishing slavery, but lost much of his fortune, and after 1812 settled on a farm in Maine. In 1819 he began to give his services to the cause of international peace; he founded the American Peace Society in 1828 and devoted his life to its growth and to the dissemination of its message through the formation of new groups, through its periodical which he edited, and through his other publications (*A Brief Illustration of the Principles of War and Peace*, 1831, and others). In order to bring his message more effectively into the Christian community he became a Congregational minister in 1837, the same year he enunciated his stand against defensive as well as offensive war.

Not content with a merely negative opposition to war, Ladd proposed an international organization to prevent it, the prototype of the Hague Court, the League of Nations, and the United Nations. His idea, as expressed in *An Essay on a Congress of Nations* (1840), was not original, but it offered the advantage over his predecessor's projects (notably that of Jeremy Bentham) of being concrete and practical, and its division of the international body into two institutions, a congress and a court, was a major contribution to the theory of international organization.

LADD-FRANKLIN, Christine, American psychologist and logician: b. Windsor, Conn., Dec. 1, 1847; d. New York, N. Y., March 5, 1930. A graduate of Vassar College in 1869, Christine Ladd studied logic at Johns Hopkins under Charles Sanders Peirce. After her marriage to the mathematician Fabian Franklin (1882), she worked on an original color theory, based on her studies with G. E. Müller in Göttingen and H. L. Helmholtz in Berlin, and later published in her book, *Colour and Colour Theories* (1929). She also lectured on logic and psychology at Columbia University (1914-1927).

LADEGAST, lä'dë-gäst, Friedrich, German organ builder: b. Hochhermsdorf, Germany, Aug. 30, 1818; d. Weissenfels, June 30, 1905. He is best known for his reconstruction of the organ in Merseburg (1855) and the building of the Leipzig Nikolaikirche organ (1859-1862).

LADENBURG, lä'dën-böörk, Albert, German chemist: b. Mannheim, Germany, July 2, 1842; d. Breslau, Aug. 15, 1911. He studied at Heidelberg, Berlin, Ghent, and Paris; and became instructor (1868) at Heidelberg, adjunct professor

(1872), and professor at Kiel (1873), and then (1889) at Breslau. He did useful work on the synthesis of alkaloids and the constitution of benzol. He conducted experiments with Charles Friedel and the two are credited with founding organic silicon chemistry.

LADISLAS, läd'is-läs; -läs, or LADISLAUS, -lôs, name of a number of kings who ruled in Bohemia, Hungary, Naples, and Poland.

BOHEMIA

LADISLAS I (Bohem. VLADISLAV). See **LADISLAS (LÁSZLÓ) V or VI**, called **LADISLAS POSTHUMUS of Hungary**.

LADISLAS (VLADISLAV) II (Pol. WŁADYSŁAW): b. March 1, 1456; d. Buda (now Budapest), Hungary, March 13, 1516. A member of the Jagellonian family, he was the son of Casimir IV, king of Poland, who attempted to secure the Bohemian and Hungarian thrones for his son after the death of Ladislas Posthumus. Ladislas' election, however, did not occur until after the death of George of Poděbrad (1471), and his rule in Bohemia (1471-1516) was contested by the Hungarian king, Matthias Corvinus—who had been proclaimed king of Bohemia in 1469 by a Bohemian minority—until the latter's death in 1490. Thereafter he also ruled Hungary as Uladislas II. Undistinguished as a statesman, he was dominated by the Bohemian nobility, and his attitude was always conciliatory in political or religious controversies.

HUNGARY

LADISLAS I (Hung. LÁSZLÓ, läs'lö), called **THE SAINT**: b. Poland, c.1040; d. Nitra, Hungary, July 29, 1095. He was the son of the exiled prince Béla, with whom he returned to Hungary in 1047 and, after another brief exile in Poland (1059), accompanied to his coronation as Béla I of Hungary in 1060. He submitted to the rule of his cousin Solomon (1064-1074), appointed by the emperor, and fought valiantly against the Cumans, but at the outbreak of intestine warfare (1073), he assisted his brother Géza to gain the throne (1074). After Géza's sudden death in 1077, Ladislas was proclaimed king of Hungary, with the unanimous consent of his country.

A staunch supporter of the papacy against the emperor, he suppressed paganism and founded several churches and cloisters. He also extended his rule into Slavonia (1089-1090); into Croatia, where he founded the bishopric of Zágráb (Zagreb; 1091); and into Transylvania where he founded the bishopric of Gyulafehérvár (Alba Iulia). Under his rule the organization and authority of the kingdom were strengthened, penal legislation was drawn up, and French culture was introduced through his establishment of the monastery of Somogyvár for the French monks of Saint-Gilles. He was canonized in 1192 and his feast day is observed on June 27.

LADISLAS (LÁSZLÓ) II: b. 1131; d. Jan. 14, 1163. The son of Béla II, he became duke of Bosnia around 1139, but subsequently lost his duchy and in 1158 went to the court of the Byzantine emperor, Manuel, with whose support he managed to usurp the throne of Hungary from his nephew, Stephen III, in 1161. His brief rule marked the height of Byzantine influence in Hungary.

LADISLAS (LÁSZLÓ) III: b. 1199; d. Vienna, Austria, May 7, 1205. The son of Emeric I, he succeeded to his father's throne in 1204 under

the regency of his uncle, who drove the child from the country in the following year and ruled as Andrew II.

LADISLAS (LÁSZLÓ) IV; called **THE CUMAN**: b. 1262; d. Körösszeg, Hungary, July 10, 1290. He was the son of King Stephen V and the Cuman princess, Elizabeth, who, after he ascended the throne in 1272, was his guardian and regent during his minority. In 1278 he helped Rudolph of Habsburg defeat Ottokar of Bohemia at the Battle of Dürnkrut (Aug. 12, 1278). Subsequently he became involved in domestic quarrels caused by his adoption of the ways and dress of his mother's people, the Cumans, a Turkic tribe which had fled to Hungary to escape the Mongols. He favored Cuman women over his wife, Elizabeth of Anjou, and sanctioned paganism. In 1282 papal pressure forced him to turn against the Cumans, but he was not converted, and in 1288 Pope Nicolas IV called for his dethronement and a crusade against the Cumans. The anarchy and internecine warfare which followed marked a decline in the moral and political life of Hungary which continued long after Ladislas' death two years later at the hands of Cuman assassins, who had not forgotten his defection in 1282.

LADISLAS (LÁSZLÓ) V. See **LADISLAS (WŁADYSŁAW) III** of Poland.

LADISLAS (LÁSZLÓ) V or VI, called **LADISLAS POSTHUMUS**: b. Komárom (Komárno), Bohemia, Feb. 22, 1440; d. Prague, Nov. 23, 1457. The posthumous son of Albert II of Hungary and of Elizabeth, daughter of the emperor Sigismund, he was crowned king when not yet three months old through the intrigues of his mother, although the Hungarian estates had already elected Ladislas (Władysław) III of Poland to the throne. For safety, the infant was placed in the care of his uncle, the emperor Frederick III. After the death of the Polish king in 1444, Ladislas became king of Hungary, but the emperor did not relinquish his guardianship of the child until 1452. Crowned king of Bohemia in the next year, the young Ladislas, under the evil influence of his grandfather, Ulrich Cillei, carried on a feud with John (János) Hunyadi, regent in Hungary during his absence. Ladislas hindered the latter's efforts to defend Hungary against the Turks and was implicated in the murder of his son, Ladislas (László) Hunyadi (1457), after which he was forced to flee to Prague where he died, presumably of the plague.

NAPLES

LADISLAS or LANCELOT: b. Naples, Feb. 11, 1377; d. there, Aug. 6, 1414. The son of Charles III and Margaret of Durazzo, he succeeded to the Neapolitan throne under his mother's regency after the assassination of his father in 1386. His reign was challenged by Louis II of Anjou, who had been the choice of the nobility and at that time occupied Naples and a large part of the kingdom, but with the aid of Pope Boniface IX he drove the invaders out (1399). In 1403 he attempted unsuccessfully to gain the Hungarian throne, and subsequently, utilizing the Great Schism and the consequent political confusion, to establish his power over the Church and Rome, which he occupied several times. He was defeated by the combined forces of Pope John XXIII and Louis II in 1412, but in the next year he again invaded Rome and sacked and burned the city.

POLAND

LADISLAS I (WŁADYSŁAW I), called **ŁOKIETEK**,

lô-kyě'těk ("the Short"): b. 1260; d. Krakow, Poland, March 2, 1333. The son of Casimir I, duke of Kujawy, he inherited the duchy of Sieradz in 1288 and in 1296 was elected Ladislas IV, duke of Poland. Later the Polish knights made Wenceslaus of Bohemia their king (1300-1305), but after the latter's death, Ladislas united Great and Little Poland under one rule. Although faced with much opposition, he was favored by the pope and was crowned on Jan. 20, 1320, Ladislas I, king of Poland, the first to re-establish the Polish monarchy after its partition into duchies in 1138. To protect Danzig from the margraves of Brandenburg, he had previously enlisted the aid of the Teutonic Knights whose subsequent territorial claims in Pomerania, however, he was unable to check (1327-1333), although he scored a major victory over the order at Płowce on Sept. 27, 1332.

LADISLAS (WŁADYSŁAW) II (or V) JAGELLO, **yā-gě'l'ō** (Pol. **JAGIELŁO**, **yā-gyě'l'ō**; Lith. **JAGELA**): b. 1350; d. Gródek, near Lwów (now Gorodok Yagellonski, Ukraine, USSR), May 31, 1434. He succeeded his father, Olgierd, as grand duke of Lithuania in 1377 and thereafter fought against the Teutonic Knights and against his uncle Kiejstut, the ruler of Samogitia, whom he treacherously murdered in 1382. In 1386 he married Jadwiga, the young queen of Poland, and by the conditions of the contract became the ruler of Poland as Ladislas II, adopted the Christian faith which he introduced into Lithuania, and incorporated Lithuania into the Polish realm. At the Battle of Tannenberg (Grunwald) in 1410, he delivered a crushing defeat to the Teutonic Knights. The founder of the Jagellonian dynasty, he had a daughter by his second wife, Maria Cillei, and by his fourth wife, Sophia, a Russian princess, he had two sons, Ladislas and Casimir, both of whom eventually succeeded to the throne.

LADISLAS (WŁADYSŁAW) III (or VI): b. Krakow, Oct. 31, 1424; d. Varna, Nov. 10, 1444. The son of Ladislas II Jagello, he succeeded (1434) to the throne under the regency (until 1438) of Zbigniew Oleśnicki. By defeating Spytek of Melztyn at the Battle of Grotnik (May 4, 1439), Ladislas brought to an end the Hussite movement in Poland, and in the next year (1440) he was elected king of Hungary. In 1443, with his chief commander John (János) Hunyadi, he crusaded against the Turks in the Balkans; but, ignoring the treaty following his victory (Peace of Szeged, 1444), he again invaded Turkish territory and was killed at the Battle of Varna.

LADISLAS (WŁADYSŁAW) IV (or VII): b. Krakow, June 9, 1595; d. Merez, May 20, 1648. He was the son of Sigismund III, whom he succeeded to the throne in 1632, having already taken part in the Muscovite wars as a claimant to the Russian throne. In his subsequent war with Russia (1632-1634) he regained Smolensk and, by the treaty of peace, conceded the czardom to Michael Romanov. Thereafter he was triumphant against the Turks (1634) and Sweden (1635), but domestic disorder prevented further expansion, and he lost Ukrainian territory as a result of the Cossack revolt under Bogdan Chmielnicki. He was a champion of religious toleration.

LADMIRAULT, **lād-mě-rō'**, **Louis René Paul de**, French general: b. Montmorillon, France, Feb. 17, 1808; d. Paris, Feb. 3, 1898. He went to Algiers (1831) as lieutenant, serving 22 years there and becoming general of a division. He

commanded a division (1859) in the war with Italy and was wounded at the Battle of Solferino. In 1870 he was given command of the 4th Corps with which he took part in the battles before Metz. On Aug. 18 he defended Amanvillers with great bravery and success against the Prussian 9th Corps. He was taken prisoner in Metz, but on his release took part in the fight against the Commune, becoming governor of Paris until 1878. He was member of the Senate 1876-1891.

LADO ENCLAVE, lă'dō ěn'klāv, area, Africa, on the west bank of the Nile, north of Lake Albert, now in Uganda and Equatoria provinces of the Anglo-Egyptian Sudan. Sir Samuel White Baker (q.v.), who first visited the town in 1864, established a military post there in 1870; he was succeeded by Charles George Gordon (q.v.), who set up, in 1878, an administration which he handed over to Emin Pasha (q.v.), styled governor of the Equatoria Province of the Anglo-Egyptian Sudan. The territory was overrun by the Mahdists when they revolted in 1885, but was recovered by the British in 1894. That same year the British government granted a lease of what was then termed the Lado Enclave (area, 15,000 square miles; pop. 250,000) to Leopold II, king of the Belgians, who administered it as part of the Congo Free State (later the Belgian Congo), of which he was independently sovereign. With his death in 1909 the lease terminated and the Lado Enclave reverted to the government of the Anglo-Egyptian Sudan.

LADOGA, lăd'ō-gā, largest lake of Europe, situated in the Union of Soviet Socialist Republics, 40 miles east of Leningrad. Greatest length, north to south, 130 miles; average breadth, about 75 miles; area, 7,156 square miles or 31 times as large as the Lake of Geneva. It receives no fewer than 70 streams, the principal ones being the Volkhov and Syas, which enter it on the south, and the Svir, which enters it on the east, bearing the surplus water of Lake Onega, and has the Neva for its outlet. It is ice free from May to October; its fauna, arctic in character, is exceptionally rich and varied. It contains numerous islands, and its shores are generally low. It abounds in fish and contains even a species of seal. Its average depth is estimated at not less than 300 feet.

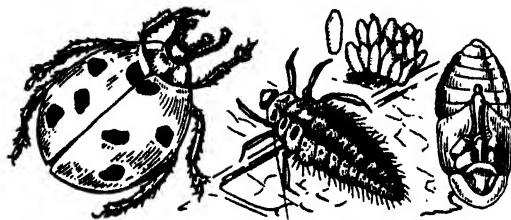
The chief population centers on its banks are Shlisselburg (now Petrokrepost), Serdobol (Sortavala) and Keksgolm (Käkisalmi) in Karelia, formerly in Finland. Two canals connect the Volkhov and the Neva; two others connect the Volkhov and the Syas and another pair of canals joins the Syas and the Svir. These form a navigable chain around the south of the lake. Until the Finnish-Russian war of 1940 part of the lake was in Finland.

LADRONES. See MARIANAS ISLANDS.

LADY, in British usage, a title of honor. It is used informally of a marchioness, countess, viscountess, or baroness. The daughter of a duke, marquis, or earl has lady prefixed to her Christian name and surname. The wife of a younger son of a duke or marquis has lady prefixed to her husband's Christian name and surname. The wife of a baronet or knight is commonly known as lady with her husband's surname; the formal title is dame with the wife's Christian name and

the husband's surname. The word comes from the Anglo-Saxon *hlafdige*, meaning breadkneader, which applied to the mistress of the house.

LADY-BIRDS, beetles of the family Coccinellidae, the majority of which are beneficial. They are mostly roughly circular in outline and strongly convex above: the smallest is 1/25 of an inch long, the largest, from southern Asia, a half inch. Probably the best known is the two spotted lady-bird beetle (*Adalia bipunctata*) which is almost cosmopolitan: it is red with a black spot on each wing-cover. The most famous is the vedalia (*Rodalia cardinalis*).



Lady-bird: adult, larvae, eggs, and pupa.

The lady-bird was imported from Australia and is credited with saving the citrus industry of California by practically wiping out the cottony cushion scale. The species *Hippodamia convergens* occurs throughout the United States but is most famous in California. The adults hibernate in enormous numbers on the high mountains. They are collected in the early spring and distributed among fruit growers for control of aphids. The eggs are yellow and are laid in small batches. The larvae are elongate, usually tapering behind, and are very active. Both adults and larvae feed on aphids, mites, mealy bugs, scales and other small insects. The most notorious is the destructive Mexican bean beetle (*Epilachna varivestris*) which spread over the eastern United States in the early 1920's.

LADY BOUNTIFUL, a character in *The Beaux' Stratagem* (1705) by George Farquhar (q.v.). Widow and beneficiary of Sir Charles Bountiful and his will, she dispenses her wealth curing the Lichfield inhabitants of their maladies.

LADY CHAPEL, a chapel dedicated to the Virgin Mary, and when attached to cathedrals, generally placed eastward from the altar. The lady-chapel of Westminster Abbey is that usually known as Henry VII's. St. Patrick's Cathedral in New York possesses a most ornate lady chapel.

LADY CRAB, a common name for the *Platyonichus ocellatus*, an American species of edible crabs beautifully covered with rings of red and purple. It is one of the group *Calinectes hastata*. There are, however, other crabs, which are so termed because they all bear what is considered as an outline of the head and shoulders of a woman.

LADY DAY, one of the quarter-days in England and Ireland, on which rent is made payable. It falls on March 25 in each year. In the Roman Catholic Church it is held as a great festival under the title of the Feast of the Annunciation. In the Anglican Church it is ob-

served as a feast. In France the day is termed Notre Dame de Mars.

LADY FERN, vulgar name for *Asplenium filix-foemina*. It has ovate-oblong or broadly lanceolate, twice pinnate fronds, and is found in moist woods of Europe and North America. It is claimed by some to have the properties of a vermifuge. The British place this fern in the genus *Athyrium*. Scott refers to it in the words:

"Where the copse-wood is the greenest,
Where the fountain glistens sheenest,
Where the mountain dew lies longest,
Where the lady fern is strongest."

Edwin Lees calls it "the sweet lady fern" and William Howitt says: "Do not pluck the strawberry flower nor break the lady fern."

LADY OF LYONS, *The*, a play, by Bulwer-Lytton, originally called *The Adventurer*. It was first produced in 1838.

LADY OF MERCY, *Order of Our*, a Spanish order dating from 1218. It was founded by James I of Aragon, in compliance with a vow made during his captivity in France. Pope Gregory IX approved the order in 1230. It was instituted to redeem Christian captives from the Moors. The order was extended to women in 1261. A branch order instituted in France was pressed at the time of the French Revolution. It is now a missionary order, mainly in South America and South Africa.

LADY OF SHALOTT, *The*, a maid who died for love of Sir Lancelot of the Lake. It is the title of one of Tennyson's poems (1832).

LADY OF THE AROOSTOOK, à-rōōs'-ōk, title of a novel by William Dean Howells (i.v.), appearing first in the *Atlantic* (1878-79), then in book form (Boston 1879).

LADY OF THE LAKE, *The*. Sir Walter Scott's *Lady of the Lake*, published 1810, was the third of his metrical romances, following the *Waverley* and the *Last Minstrel* and *Marmion*. It was the result of a trip which Scott had made, on legal business, into the Highland country, where he had been impressed by the romantic character of the scenery and its appropriateness to the poetic treatment of historic associations. This poem," he said, "the action of which lay among scenes so beautiful and so deeply imprinted on my recollections, was a labor of love, and it was no less so to recall the manners and incidents introduced. The frequent custom of James IV, and particularly of James V, to walk through their kingdom in disguise, afforded me the hint of an incident which never fails to be interesting,—that is, the participation, on the part of royalty in disguise, in a romance among humbler folk. The poem may be said to reach the high-water mark of Scott's success in blending the interest of scenery, action and simple human feeling, so far as his metrical works are concerned, though it contains nothing so fine of its kind as the account of the Battle of Flodden in *Marmion*. The characters of the king and of Roderick Dhu are brilliantly sketched; that of the young lover, Scott, as usual, found difficulty in handling. "You must know," he wrote to a friend, "this Malcolm Graeme was a great plague to me from the beginning. . . . I gave him that dip in the lake by way of making him do something; but wet or dry, I could make nothing of him." He also re-

lated, to illustrate his care for accuracy of detail, that he himself rode into Perthshire "to see whether King James could actually have ridden from the banks of Loch Vennachar to Stirling Castle within the time supposed in the poem."

The Lady of the Lake, like the earlier romances, met with instant success, and has proved lastingly popular. Its epilogue is one of Scott's few distinguished achievements in purely lyric poetry.

LADY OF THE LAMP, *The*, a name given to Florence Nightingale (q.v.), alluding to her nightly visits to hospitalized wounded soldiers during the Crimean War. Longfellow's *Santa Filomena* popularized it.

LADY OR THE TIGER, *The*, title of a story by Francis Richard Stockton (New York 1884). It received exceptional popularity heightened by the fact that the sequel or decision is left to the reader, thereby creating a considerable fund of conjecture and discussion. The title has become a pet phrase to express a dilemma.

LADY WINDERMERE'S FAN. Oscar Wilde had made himself notorious in affecting to write only to the few. In *Lady Windermere's Fan* he throws his dart directly at popularity with the many. Nothing in Wilde's career is more perverse and more characteristic than the extraordinary success of his series of comedies beginning in 1892 with *Lady Windermere's Fan*. This success is secured by an impudent practice of all the codes he had preached in his early career. And now his affronts to the public bring him fortune as well as fame. In the 1880's Wilde had been the *enfant terrible* of the British Isles; he had shocked the pruders; he had pained the apostles of beauty for man's sake with his impious contempt for the British middle class man. He had got himself lampooned and made the central figure of the Gilbert and Sullivan opera, *Patience*, but still he was poor. Now at the age of 38 he turns respectable as to morals and conventional as to artistic manners. Nothing could be more lofty, more smug, more British middle class than the morals of *Lady Windermere's Fan*; nothing could be more *au fait* according to the current English imitations of French serious drama than the innocent-guilty intrigue that it propounds. The men are long-winded praters, wise and witty and sophisticated as to words, impeccable as to their private lives. The women are dowagers and faithful wives. If any has sinned it was very long ago. The young girls are silent. In all these respects Wilde was giving the respectable English audience what it wanted. He knew that the audience would accept any amount of banality in the theater if only it were given a dash of piquant French sauce. It would enjoy risqué allusions but only as verbal badinage. Wilde was never more witty and ingenious than he was in *Lady Windermere's Fan* and the succeeding plays. Never, save in *The Importance of Being Earnest*, which is a true farce, was he less honest. In his earlier work, with all his absurdities, he had been a corrective for characteristic British faults. In his society plays he pampers and coddles these faults and prospers upon them. Wilde's wit and paradox and epigram have become famous. The verbal brilliancy of his plays is what gives them continuing life. The stories are second-rate; the characters are not differentiated. All

are artificial creations in a fictitious code. But the author's own quips of observation, his turn of phrase and observation, the heartless polish of his contemptuous comedy, make the play memorable among the few examples of English comedy of manners. *Lady Windermere's Fan* was produced by Sir George Alexander (1858-1918) at the St. James's Theatre, London, Feb. 22, 1892; it was revived at the same theatre Nov. 19, 1904 and Oct. 14, 1911. First production of the play in the United States was at the Columbia Theatre, Boston, in 1893. Subsequently it was revived frequently in several countries.

THOMAS H. DICKINSON.

LADYPISH, BANANA-FISH or BONE-FISH, the name of several different marine fishes conspicuous for elegance of outline and handsome coloring. They are found mainly in the tropical regions.

LADY'S FAN, The. See GIANTS CAUSEWAY.

LADY'S or FAIRY'S, FINGERS, GLOVE, or THIMBLE, are some among many gardener's names for the purple foxglove (*Digitalis purpurea*), in regard to which much provincial folklore might be cited. See DIGITALIS; FOX-GLOVE.

LADY'S MANTLE, popular name for the *Alchemilla pratensis* (Schmidt) of the *Rosaceae* family. The *Alchemilla vulgaris* L. is also so called. This term is derived from the fact that there is supposed to be a similarity to a mantle in the shape of its leaf. It is a perennial with orbicular-reniform leaves, 5-9 lobed, more or less pubescent, serrate. Flowers are two inches broad. It grows in grassy places near the Nova Scotia, Cape Breton, and eastern Massachusetts coast, but was naturalized from Europe. The *Alchemilla alpina* L. is found on Miquelon Island and on the White and Green mountains; it is distinguished by its beautiful five oblong silky entire leaflets. The *Aphanes arvensis* L., or parsley-piert, is also called *field lady's mantle*. This is found in dry fields of Nova Scotia, Georgia, Tennessee; it has claims to astringent and diuretic properties.

LADY'S SLIPPER, or MOCCASIN FLOWER, an orchid of the genus *Cypripedium*, several species of which grow both wild and cultivated in the United States. See ORCHIDS.

LADY'S SMOCK. See CUCKOO-FLOWER.

LADYSMITH, Canada, city of British Columbia, on Oyster Harbor, Vancouver Island, in the Nanaimo district, 16 miles south of Nanaimo; it is on the Island Highway and the Esquimalt and Nanaimo Railway. Ladysmith is 50 miles northwest of Victoria, B.C. The city was incorporated in 1904, and the streets are named after generals who took part in the South African War. The city owns its own sewerage system, and the retail distribution system for electricity, purchased in bulk from a utility company. Formerly a coal-mining and shipping center, Ladysmith became the center of an extensive logging industry. There are several small coal mines in the district, as well as large tributary farming areas to the north and south. Oyster cultivation is carried on in the harbor, and a plant operates for the crushing and selling of

shell. A weekly newspaper, the *Ladysmith Chronicle*, serves a large area. Pop. 1,685.

LADYSMITH, Union of South Africa, town of Natal province, near the Klip River, 201 miles northwest of Durban. Situated 3,284 feet above sea level, some 30 miles from the foot of the Drakensberg Mountains, it is sheltered from severe winds and enjoys a dry and bracing winter climate; the summer heat, however, is frequently oppressive. An important railroad center, lines radiate to the Transvaal, the Orange Free State, and the sea coast. Besides railroad workshops, the town contains engineering works, creameries, and lumber mills. Founded in 1851, Ladysmith was named for the wife of Sir "Harry" (Henry George Wakelyn) Smith, Juana Maria de Los Dolores de León, a Spanish girl whom he rescued during the Peninsular War. In the early stages of the South African War (q.v.) 10,000 British troops under Sir George (Stuart) White (q.v.) were besieged in the town by Transvaal forces numbering 20,000 commanded by Gen. "Piet" (Petrus Jacobus) Joubert (q.v.). The siege began on Nov. 2, 1899, and despite repeated efforts by a relieving army under Sir Redvers Henry Buller (q.v.) continued until Feb. 28, 1900. Some 3,200 British soldiers were killed or died of disease in the defense and relief of the town. Pop. (1936) 9,702.

LAOKEN, lă'kên, Belgium, a northern suburb of Brussels. Within it is a royal chateau and park, the former built in 1782 and later improved by Napoleon Bonaparte for the use of Josephine; subsequently it was a residence of the royal family of Belgium, being restored in 1890 after a destructive fire. In the vicinity of Laeken stands the Column of the Congress, a colossal monument, erected in 1859, surmounted by the statue of Leopold I by Willem Geefs, Belgian sculptor (1806-1883).

LAELIUS, lē'li-ūs, (1) **Gaius**, Roman general and statesman; d. after 170 B.C. He was a friend of Scipio Africanus the elder, and fought under the latter in most of his campaigns. In 190 B.C. he was made consul in consequence of his successes in the Spanish campaign (210-206 B.C.) and in Sicily and Africa. He defeated Syphax in 203. In 170 he was ambassador to Transalpine Gaul. (2) **Gaius**, surnamed Sapiens (the Wise), son of the preceding Roman statesman and student; b. about 186 B.C.; d. 115 B.C. He was an intimate friend of Scipio Africanus the Younger which comes out clearly in Cicero's treatise *Laelius sive de Amicitia*. In 151 he was tribune of the plebs, in 145 praetor, and in 140 was consul. His love of literature and philosophy is noted; as well as his friendship and social intercourse with talented contemporaries, as the philosopher Panaetius, the historian Polybius, the poets Terence and Lucilius. His early life was devoted to the study of philosophy and law. Besides figuring in *De Amicitia*, as interlocutor, he is a speaker in *De Senectute* and in *De Republica*. He had some talent for military work, as proved by his campaign against the Lusitanian Viriathus. He imbibed the doctrine of the Stoics from Diogenes of Babylon and Pandetius. Early in his career he attempted to procure a division of the public land among the people but threat of disturbances caused him to drop the measure; later he became an adherent of the aristocratic party.

How highly his course of life was honored is clearly shown in one of Seneca's injunctions to his friend Lucilius "to live like Laelius."

LAENNEC, lā-nĕk', René Théophile Hya-cinthe, French physician: b. Quimper, France, Feb. 17, 1781; d. Kerlouanec, near Douarnenez, Aug. 13, 1826. He took his degree of doctor of medicine in 1804, and by 1812 was a physician at the Hôpital Beaujon. In 1816 he was appointed chief physician to the Hôpital Necker, and soon after made the notable discovery of mediate auscultation, that is, of the use of the stethoscope. The original discovery, however, is claimed for Leopold Auenbrugger (q.v.). In 1819 he published his *De l'auscultation médiate ou traité du diagnostic des maladies des poumons et du coeur*, having read a memoir on the subject to the Academy of Sciences in the previous year. In 1822 he was appointed professor of medicine at the Collège de France. The remainder of his life was devoted to the perfecting of this new system of diagnosis, and so far as diagnosis is concerned his treatise has produced an effect not attained by any other work.

The special study of Laënnec was diseases of the chest, and by means of auscultation, either by the direct application of the ear, or of the stethoscope as an auxiliary, he elucidated the pathology of these diseases, which were previously involved in the greatest obscurity. His biography, *Laënnec, son vie, son ouvrage*, by Henri Saintinon, was published in Paris 1904.

LAERTES, lā-ūr'tēz, king of Ithaca and father of Odysseus (Ulysses). He had been one of the heroes engaged in the chase of the Calydonian boar, and in the expedition of the Argonauts. The absence of his son in the Trojan War plunged him into melancholy, but the return of Odysseus restored his energies, and he took part in the fight with the suitors of Penelope.

LAESA MAJESTAS, lē'sā mā-jēs'tās, Latin term meaning injured majesty. It is a phrase taken from the Roman law and entering modern civil law to designate an offense against the person or dignity of the king, therefore high treason. Out of court, the common term is **LESE MAJESTY**.

LAETARE SUNDAY, lē-tā'rē, called also Mid-Lent, the fourth Sunday in Lent. The introit for the day in the Roman Catholic Church begins with the words, "Laetare (rejoice), Jerusalem," from Isaiah 66:10; hence the name.

LAFARGE, lā-fārz'h', Marie Fortunée (nee CAPPELLE), French victim of circumstantial evidence: b. Villers-Helon, 1816; d. Ussat, Nov. 7, 1853. Of distinguished family and highly educated, she married (1839) an ironmaster of Corrèze and was accused of poisoning him when he died (1840) from eating poisoned sweetmeats. She had purchased arsenic from a pharmacy and could not clearly account for its use; her neighbors testified against her, and she had been accused of the theft of diamonds in June 1839 from a lady friend which were then, in part, discovered in her residence and was sentenced to two years' imprisonment for the theft. The evidence of witnesses as to the poison was contradictory and her lawyer, the celebrated Alphonse

G. V. Paillet of Paris, made a good defense. But the animosity of the judge prevailed and she was adjudged guilty and sentenced to hard labor for life, and later evidence in her favor did not stay the punishment. Friends gained her release after 12 years in prison, but she soon died from the experience she had gone through. While in prison she wrote *Memoires* (1841).

LAFAYETTE, lā-fi-ēt' (Fr. là-fā-yēt'), MARQUIS DE (MARIE JOSEPH PAUL YVES ROCH GILBERT DU MOTIER), French soldier and statesman: b. Chateau Chavaniac, near Brionde, Auvergne (in the present Department of Loire), Sept. 6, 1757; d. Paris, May 20, 1834. He belonged to an eminent family of France. He was educated in the Collège du Plessis, in 1771 entered the army as an officer of the King's Musketeers, and on hearing of the Declaration of Independence by the American colonists, determined to lend them his assistance.

In 1777 he left France for America with 11 companions, among whom was Baron de Kalb; set sail from Pasajes, Spain, in a ship equipped by himself; and arrived at Georgetown, S. C., June 13. He proceeded to Philadelphia, and to the Congress there in session volunteered his services without pay. On July 31, he was commissioned major general, and not long after became a member of Gen. George Washington's staff. He was slightly wounded at Brandywine (Sept. 11), while rallying the American forces from a retreat, was appointed to the command of an abortive expedition for the invasion of Canada, never executed owing to lack of means, and in April 1778 was ordered to join Washington at Valley Forge. On May 19 he was surprised by Gen. James Grant with 5,000 troops at Barren Hill (see LAFAYETTE AT BARREN HILL), 12 miles from Valley Forge, where he had taken post with 2,100 troops and five cannon. Though nearly surrounded by a superior force, he succeeded in extricating himself, recrossing the Schuylkill and reaching Valley Forge in safety.

War between France and England having broken out, Lafayette returned (January 1779) to place himself at the disposal of the French government; obtained for the American cause financial assistance and the reinforcement of a fleet and 6,000 troops under the comte de Rochambeau, and on May 11, 1780 he rejoined the American army. He was shortly afterward stationed at Tappan, with a light infantry corps of observation, and was a member of the court of general officers by which Maj. John André was tried and condemned to death (September 29). On Feb. 20, 1781 he was sent by Washington with 1,200 New England and New Jersey troops to aid in the defense of Virginia. Reinforced, he pursued Gen. Charles Cornwallis from near Charlottesville to Yorktown, thus contributing to the decisive operations by which the war was virtually concluded.

He sailed from the United States in December 1781, but revisited America in 1784, when he was enthusiastically received. Lafayette was called to the Assembly of the Notables in 1787, and was elected a member of the States General, which took the name of National Assembly (1789). Two days after the attack on the Bastille he was appointed (July 15) commander in chief of the National Guard of Paris, and gave them the tricolor cockade. It was through

his means that the lives of the king and queen were saved from the mob that had taken possession of the palace at Versailles (October 5-6). After the adoption of the Constitution of 1790 he resigned all command and retired to his estate of La Grange. He had previously resigned his title, the abolition of titles having been decreed by the National Assembly. The first coalition against France (1792) soon called him from his retirement. Being appointed one of the three major generals in the command of the French armies, he established discipline and defeated the Austrians and Prussians at Philippeville, Maubeuge, and Florennes, when his career of success was interrupted by the factions of his country.

During the Reign of Terror commissioners were sent to arrest him, but he escaped to Flanders. Having been captured by an Austrian patrol (August 1792), he was delivered to the Prussians, by whom he was again transferred to Austria. He was carried with great secrecy to Olmütz (Olomouc), where he was subjected to much privation and suffering, and whence he was not released until Aug. 25, 1797. He returned to his estate at La Grange two years later, and taking no further part in public affairs devoted himself to agricultural pursuits. He sat in the French Second Chamber from 1818-1824 and from 1825 until his death he sat in the Chamber of Deputies.

In August 1824 he landed at New York on a visit to the United States, upon the invitation of President James Monroe at the request of Congress, and was received in every part of the country with the warmest expression of delight and enthusiasm. Congress voted him \$24,424 and a township of land, his own fortune having been mostly lost by confiscation during the Terror. During the Revolution of July 1830 he was appointed general in chief of the National Guard of Paris, and though not personally engaged in the event, was, through his activity and name, of the greatest service. When the National Guard was established throughout France, after the termination of the struggle, he was appointed their commander in chief. Of Lafayette, Edward Everett said: "Who, I would ask, of all the prominent names in history, has run through such a career, with so little reproach justly or unjustly bestowed."

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LAFAYETTE, city, Indiana, and Tippecanoe County seat, altitude 661 feet, on the Wabash River, and served by the Chicago, Indianapolis and Louisville, the Cleveland, Cincinnati, Chicago and St. Louis, the New York, Chicago and St. Louis, and the Wabash railroads, situated 58 miles northwest of Indianapolis, with an airport. The surrounding area is agricultural, and the city is a market and shipping point for grains, cattle, and hogs. It is an industrial center, with railroad shops, packing houses, and

factories that turn out aluminum products, electric meters, steel and wire goods, automobile gears, soybean oil, drugs, soap, beer, sponge rubber products, and strawboard.

The city has a well-stocked public library, an art museum, and a museum with collections maintained by the county historical society. Lafayette is the seat of Purdue University (q.v.). The State Agricultural College is associated with it. St. Francis Normal School is also here. A state soldiers' home is located here; also, a privately maintained home for children. There are hospitals, good churches, hotels, and social and civic organizations.

Eight miles north of the city, on Nov. 7, 1811, was fought the Battle of Tippecanoe between 900 Americans under William Henry Harrison (q.v.) who was then governor of the Territory of Indiana, and a force of Indians under the brother of Tecumseh (see TIPPECANOE, BATTLE OF); a monument marks the battleground. Four miles south of the city is the site of old Fort Ouiatenon, one of the first white settlements in the state of Indiana. There is no actual surviving relic of the fort, supposed to have been erected in 1720, after Sieur de La Salle had induced the Indians to move over into Illinois; but the site is marked. The French fort was taken by the British in 1760, and in 1763 it was captured by the Indians; it was destroyed in 1791. Lafayette was platted in 1825 and incorporated as a city in 1853. Its government is administered by mayor and council. The water supply system is municipally owned; the power and light systems are privately owned. Pop. (1950) 35,568.

LAFAYETTE, city, Louisiana, seat of Lafayette Parish, at an altitude of 38 feet, on the Vermilion River, 55 miles west-southwest of Baton Rouge. It has a municipal airport, and is served by the Southern Pacific Railroad and state highways. The surrounding agricultural area produces sugar cane, rice, cotton, corn, and sweet potatoes. The city is a shipping center of considerable importance. Industrial plants include railroad repair shops and manufactures of sashes and doors, signs, and concrete pipes. It also has cotton gins, cottonseed presses, sugar refineries, creameries, and packing plants. Nearby are oil and gas fields and sulphur and salt mines.

Southwestern Louisiana Institute (q.v.), a coeducational institution of academic and technical instruction, and teacher training, is located at Lafayette. The city has a public library, musical associations, and other civic and social clubs. St. John's Cathedral (1916) is its most notable building and the Lafayette Charity Hospital located here is a state institution.

The earliest settlers at this spot were probably Salvator Mouton and his wife, Anne, during the 1770's. They came from Halifax, Nova Scotia, fleeing from English persecution and soon other exiled Acadians joined them here. Descendants of the Mouton family have been very prominent in Louisiana history. There is a Mouton Monument honoring Brig. Gen. Jean Jacques Alfred Mouton, who was drillmaster of the vigilantes against cattle rustlers in 1859, and who met his death at the Battle of Mansfield in 1864. Lafayette was incorporated as a town in 1836, renamed in 1884, and incorporated as a city in 1914. It has commission form of government. Pop. (1940) 19,210; (1950) 33,541.

LAFAYETTE AT BARREN HILL.

The first independent command of the Continentals entrusted by Gen. George Washington to the marquis de Lafayette as a major general was with 2,100 of his best troops (out of 11,800 effectives trained by Baron Friedrich W. von Steuben), with five pieces of artillery, to take a position on Barren Hill (now known as Lafayette Hill), 10 miles from Philadelphia. The object was to cut off British foraging parties and make reconnaissance to see if Sir William Howe was about to evacuate the city. The British got wind of the projected movement and a ship was kept waiting in the Delaware River for 10 days, the commander hoping to take Lafayette as a prisoner to England.

On May 1, 1778, a day of joy, news of the French Alliance was read in camp. On the 18th Lafayette sallied out and secured a strong position on Barren Hill. On the 19th, 5,000 British and Hessians marched by three roads to envelop the young Frenchman and his force, one detachment west of the Schuylkill expecting to cut off his retreat at Matson's Ford. The plan, skilfully conceived, seemed certain of success, when Lafayette, detecting the red uniforms, quickly occupied the strongest positions and sent out false heads of columns, which delayed the British advance until reinforced and able to deploy. The race was now for Matson's Ford. The enemy rallied by two roads to cut off the Americans, but the retreat was so skilfully conducted, Lafayette bringing up the rear, that, despite the heavy cannonade from the British batteries of field artillery and the swift charges of the Hessians, the young Frenchman, by his wisdom, coolness, and promptness, saved the day. One incident illustrates this. A British round shot, hitting the axle, disabled one of the five cannon of the Continentals. To abandon a gun would mean defeat both to Lafayette and to Washington. Ordering the artillerists to leap from their caissons and horses into the farm yard of John Harby, a farmer, Lafayette commandeered his wagon and had the gun quickly lashed by the breech to the hind axle. Then, whipping up the horses, the cannon was dragged seven miles over the rough road to Matson's Ford.

In the skirmish at the river side the American rear-guard lost nine men. That of the British was reported as three, but the retreat was perfected and all the guns saved, together with the troops, to the joy of Washington and the confirming of his trust. A few days later the army started in pursuit of Howe.

Consult Carrington, Henry B., *Battles of the American Revolution* (New York 1876).

WILLIAM ELLIOT GRIFFIS.

LAFAYETTE COLLEGE, a Presbyterian college at Easton, Pa., founded in 1826. Its faculty (1950-1951) was 145 and its student body enrollment was 1,659 men. The endowment of more than five millions has come from gifts of private individuals and the General Education Board. It was chartered in 1826, but owing to the failure of the legislature to make any appropriation, the college was not opened until 1832. Since the Civil War the college has had a notable growth. The college curricula offer courses leading to the degree of bachelor of arts, and the B.S. apportioned to departments as bachelor of science in chemistry and physics, bachelor of science in civil engineering, chemical engineering,

electrical engineering, mechanical engineering and mining and metallurgical engineering. The various buildings include Pardee Hall, a memorial library with over 125,000 volumes, a memorial chapel, the Gayley Laboratory of Chemistry and Metallurgy, the Mechanical Engineering building, and Kirby Hall.

LAFFAN, lăf'ăn, William Mackay, American newspaper publisher and art connoisseur: b. Dublin, Ireland, Jan. 22, 1848; d. New York, Nov. 19, 1909. He was educated at Trinity College, Dublin, and emigrated to America (1868) where he worked on the San Francisco *Chronicle* as reporter, and becoming city editor, then managing editor of the *Bulletin*. In 1870 he went over to the Baltimore *Daily Bulletin*, becoming owner and editor, in which capacity he made vigorous war on the political clique that was injuring the city. He became a member of the staff (1877) of the New York *Sun*, then (1881) art editor for Harper Brothers, but was publisher of the New York *Sun* in 1884, establishing the *Evening Sun* in 1887. By 1902 he had purchased the Charles A. Dana estate's interests in the *Sun*, and became president of the Sun Printing and Publishing Co. He was a prominent connoisseur and collector of Chinese porcelains and was a trustee of the Metropolitan Museum of Art from 1905. He wrote *Oriental Ceramic Art* (1897), and the introduction to the *Catalogue of Porcelains of the Morgan Collection* then at the Metropolitan Museum of Art (New York 1904).

LAFFITTE, là-fê', Jacques, French banker: b. Bayonne, Oct. 24, 1767; d. Paris, May 26, 1844. He entered the banking house of the senator, Jean F. Perregaux, and in 1804 became the head of the firm, which he made one of the first houses in France. In 1809 he was appointed regent of the Bank of France, and in 1814 governor of the same establishment. When the credit of France, in 1815, was at a very dangerous crisis, Laffitte advanced 2,000,000 francs in ready money, by which means a necessary article in the capitulation of Paris was settled. He was elected to the Chamber of Deputies in 1816. In 1819 he was deprived of the presidency of the bank, which was bestowed on the duke of Gaeta, yet he was in 1822 unanimously re-elected to the office of *régent de la banque*. Laffitte was again elected to the Chamber of Deputies in 1827, and took an active part in the Revolution of July 1830, being one of the deputies who signed the protest, and declared themselves deputies of France, in spite of Auguste J. A. M. Polignac's order to annul the election. He founded a new credit bank in 1837, and was president of the Chamber of Deputies in 1843. He became bankrupt in his latter days, and was obliged to sell all his property to pay his debts, but his Paris home was preserved to him by a national subscription.

LAFFITTE, or **LAFITTE**, Jean, American pirate and smuggler: b. France, c.1780; d. probably Silan, Yucatán, 1826 (according to some authorities, at sea in 1817). He was at one time a privateer in the employ of Cartagena for the destruction of British and Spanish commerce. Soon he turned to piracy, and by 1812 was leader of a band of desperadoes who maintained headquarters on the island of Grand Isle in Barataria Bay, plundering traders in the Gulf of Mexico.

During the War of 1812, Commodore William H. Percy, commanding the British naval force in the gulf waters, unsuccessfully endeavored to obtain Laffitte's cooperation in the expedition against New Orleans. Laffitte later offered his services to the governor of Louisiana and Gen. Andrew Jackson, on condition of full pardon for himself and his followers. He assisted in the construction of the defenses of Barataria Bay, and in command of a detachment of his band participated most creditably in the Battle of New Orleans (Jan. 8, 1815).

President James Madison by proclamation confirmed the amnesty granted to the outlaws, but Laffitte continued to carry on his piracy from the island of Galveston against the Spaniards. He was a bold smuggler, and brought to Louisiana cargoes of Negro slaves. He was associated with a brother, Pierre, with whom he is often confounded. He is the hero of Joseph H. Ingraham's story *Lafitte: or, The Pirate of the Gulf* (1836). Other books romanticizing Laffitte include M. V. Charnley's *Jean Lafitte, Gentleman Smuggler* (New York 1934); T. M. Hunter's *Saga of Jean Lafitte* (San Antonio, Texas 1940); and Lyle Saxon's *Lafitte, the Pirate*, 2d ed. (New Orleans 1950). See also BARATARIA, PIRATES OF.

LAFITAU, là-fê-tô', **Joseph François**, French missionary and writer: b. Bordeaux, 1670; d. there, July 3, 1746. He belonged to the Society of Jesus and was for some years (1712-1717) attached to their missions among the Iroquois in Canada, and was afterward procurator of the Canadian missions. On his return to France he published *Mémoire concernant la précieuse plante ginseng de Tartarie* (1718), the plant here noticed, which was highly valued by the Chinese, having been found by Lafitau in the Canadian forests; *Mœurs des sauvages Américains comparées aux mœurs des premiers temps* (1723); *Histoire des découvertes et conquêtes des Portugais dans le nouveau monde* (1733).

LAFLAMME, Toussaint Antoine Rodolphe, Canadian jurist: b. Montreal, May 15, 1827; d. Dec. 7, 1893. Educated at the College of St. Sulpice, Montreal, he was admitted to the bar in 1849, and became a member of the "Rouge" or liberal reform element in Quebec Province. At the same time he continued his legal practice, and was appointed professor of the law of real property in McGill University. He was one of the founders of the Institut Canadien de Montreal and in 1872-1878 sat in Parliament for Jacques Cartier County. In 1876 he was minister of inland revenue under Alexander Mackenzie and in 1877-1878 was minister of justice.

LAFONTAINE, là-fôn-tên', **August Heinrich Julius**, German clergyman and novelist: b. Brunswick, Oct. 5, 1758; d. Halle, April 20, 1831. He studied theology (1777-1780) at Helmstedt, became private instructor in several locations until 1789. He joined the Prussian Army as field chaplain and settled (1801) in Halle. He was made canon of Magdeburg Cathedral as reward for dedicating a work to Friedrich Wilhelm III and Queen Louise. He was a prolific but popular writer, being author of over 150 volumes. Sentiment and domestic life are his themes served up in the narrow lines of the period. Writing under the pseudonyms GUSTAV FREIER, MILTENBERG, or SELCHOW, his best tales

are *Gemälde des menschlichen Herzen* (1792 and later, 15 vols.); *Familiengeschichten* (1 vols., 1797-1804); *Der Sonderling* (1793); *Der Naturmensch* (1791).

LAFONTAINE, Henri, Belgian jurist: b. Brussels, April 22, 1854; d. there May 5, 1944. He was appointed (1878) secretary of the Gesellschaft für Förderung der Mädchenarbeiter Schulen, and (1889) secretary of the Belgian Peace Society. In 1893 he became professor of international law, and was made (1895) senator, also director of the International Bibliographical Institute, and in 1907 was appointed secretary of the Union of International Associations. He shared with Elihu Root (1913) the Nobel Prize for his work in the advancement of international peace. He wrote *Pacifisme internationale* (1902); *Bibliographie de la paix et de l'arbitrage international* (1904); *The Great Solution, Magnissima Charta* (1916); and *Code des vœux internationale* (1923).

LAFONTAINE, Sir Louis Hypolite. See LA FONTAINE, SIR LOUIS HIPPOLYTE.

LAFUENTE or **LA FUENTE**, lä fwän tä, **Modesto**, Spanish historian: b. Rabanal de los Caballeros, May 1, 1806; d. Madrid, Oct. 25, 1866. After receiving his education in philosophy and theology he was appointed professor of philosophy at the University of Astorga (1832) and two years later succeeded to the chair of theology there. Abandoning this some years afterward, he went to Madrid where he began writing political and theatrical criticism for the newspapers under the pen names of FRAY GERUNDIO and TIRABEQUE. These essays were collected as *Collección de capilladas y disciplinazo* (1837-1840) and as *Teatro social del siglo XIX* (1846). But his chief title to fame rests on his *Historia general de España*, 30 vols. (1850-1866), a monumental work, later edited and revised by Juan Valera in 25 vols. (1887-1891). Other works by Lafuente include *Viaje aerostático de Fray Gerundio y Tirabeque* (1847), and *Revista europea* (1848-1849).

LAGARDE, lä-gärd', **Paul Anton de**, German Orientalist: b. Berlin, Nov. 2, 1827; d. Göttingen, Dec. 22, 1891. He studied theology and Oriental and Semitic languages at Berlin, London, and Paris, coming to Halle University in 1853 to lecture. He taught at several schools of science, from 1866, at Berlin and Schleusingen, and in 1869 was made professor of Oriental languages at Göttingen University. Besides editing the works of the Italian philosopher Giordano Bruno (1888-1889), he wrote an astonishing number of many-sided philological works including *Gesammelte Abhandlungen* (1866); *Aegyptiaca* (1875); *Armenische Studien* (1877); *Semitica* (1878-1879); *Orientalia* (1879-1880); *Symmicta* (1877-1880); *Persische Studien* (1884); *Mittelungen* (1884-1891); *Bibliotheca Syriaca* (1892). He also wrote several poems which were published by his wife in 1897, at which time he worked on books of the Bible.

His great learning and gifts were curious mixed with dogmatism and distrust in the activities of others. His *Deutsche Schriften*, 4th ed. (1903) deals with the position of the German state to theology, the church, and religion. His library now belongs to the New York University.

LAGARTO, là-gär'tò, the Spanish word for lizard. It was applied by the early Spanish explorers of Central America to the alligator (*el lagarto de Indias*), and their use of the word clung to the literature of the natural history of the New World for many years.

LAGERLOF, lä'gër-löv, **Selma Ottiliana Lovisa**, Swedish authoress: b. Mårbacka Manor, Värmland, Nov. 20, 1858; d. there, March 16, 1940. Her father was a Swedish army officer and her mother came of a family of artists and clergymen. She was educated at the Royal Women's Superior Training College, Stockholm. She became a teacher at the Girls' High School at Landskrona (1885-1895), and during this time prepared her first book, *Gösta Berlings saga*, 2 vols. (1891; Eng. tr. as *Gosta Berling*, 1898). A story of various Värmland legends and myths, its refreshing breath of romance was a pleasant change from the pessimistic realism which had been the vogue, and brought the author prompt and remunerative success. A year's travel in Egypt, Palestine, and Greece provided her with material for the second volume of her *Jerusalem*, 2 vols. (1901-1902; Eng. tr. 1903), and also for portions of *Kristuslegender* (1904; Eng. tr. as *Christ Legends*, 1908). Out of travel and a study of conditions in Italy and especially in Sicily came the *Antikrists mirakler* (1897; Eng. tr. as *Miracles of Antichrist*, 1899). Commissioned in 1902 by the National Teachers' Association of Sweden to write a school textbook which should present in story form the folklore, geographical peculiarities, and flora and fauna of the various provinces of the country, Miss Lagerlöf accomplished her task with a success that added a children's classic to Swedish and world literature—*Nils Holgerssons underbara resa*, 2 vols. (1906-1907), the English translation of which is entitled *The Wonderful Adventures of Nils* (1907).

Honors followed Miss Lagerlöf's successes. In 1904 the Swedish Academy awarded her its gold medal; in 1907 she received the degree doctor of letters from Uppsala University; in 1909 she was awarded the Nobel Prize for literature, the first woman to have received this honor; and in 1914 the Swedish Academy elected her membership—again the first woman so honored. Her following in the United States is in part due to Mrs. Velma Swanston Howard, who faithfully translated many of her books.

Although Miss Lagerlöf was first greatly influenced by the works of Thomas Carlyle, she afterward found a warm and serene style of her own that flowed in a simple, story-telling manner from her pen. Her other works translated to English include *Invisible Links* (1894; Eng. tr. 1899); *The Queens of Kungahälla* (1899; Eng. tr. 1917); *From a Swedish Homestead*, a collection of short stories (1899; Eng. tr. 1901); *The Girl from the Marsh Croft* (1908; Eng. tr. 1910); *Further Adventures of Nils* (1911; Eng. tr. 1911); *The Emperor of Portugallia* (1914; Eng. tr. 1916); *The Outcast* (1919; Eng. tr. 1921); *Mårbacka: The Story of a Manor* (1922; Eng. tr. 1924); the trilogy *Löwensköldska ringen* (1925), *Charlotte Löwensköld* (1925), and *Anna Svard* (1928), Eng. tr. combined into *The Ring of the Löwenskölds* (1931); *Diary of Selma Lagerlöf* (1936; Eng. tr. 1937).

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LAGO MAGGIORE. See **MAGGIORE LAKE**.

LAGOON, lä-gōon' (Lat. *lacuna*, a ditch, pool, or pond), a shallow lake or creek connected with the sea, found along low-lying coasts. It is also applied to the expanse of water in the interior of those coral reefs which present to view above the surface of the water nothing but an external fringe. See also **ATOLL**; **CORAL AND CORAL ISLANDS**.

LAGOS, lä'gòs (in full **LAGOS DE MORENA**), city, Mexico, in the northeast of the State of Jalisco, 45 miles northwest of Guanajuato, on the Mexican Central Railroad. It lies 6,000 feet above the sea and is the shipping center for an agricultural region. It has silver mining, shoe factories, and dairy industries, and is a resort center. It was founded about 1540, being named Santa Maria de los Lagos, and after the war of independence was named after its defender, Pedro Moreno, who died here in battle against the Spaniards in 1817. Pop. (1940) 12,490.

LAGOS, lä'güs, seaport, Nigeria, West Africa, the capital and seat of the central government of the British colony and protectorate of Nigeria. The most important seaport of Nigeria, it is situated on an island of the same name, at the west end of Lagos Lagoon, off the Gulf of Guinea. It is connected by the Carter Bridge, 2,500 feet long, to Iddo Island, which is connected to the mainland by another bridge, and there are direct rail and highway connections with Kano, 700 miles distant. The chief exports are rubber, cacao, peanuts, tin, hides and skins, gums, kerosine and palm oils, and mahogany. It is the site of two teachers' institutions, King's College and Queen's College.

The island was discovered and named by the Portuguese in the 15th century, and was a notorious slave market until the mid-19th century. Lagos and its hinterland were acquired by the British from the native king in 1861 after British troops had occupied the island for 10 years. It has since been administered as a part of Sierra Leone (1866-1874), part of the Gold Coast Colony (1874-1886), an independent protectorate (1886-1906), part of Southern Nigeria (1906-1914), and is now incorporated in the colony and protectorate of Nigeria, and is governed by a commissioner. Pop. (1950 est.) 230,000.

LAGOS, lä'gōosh (ancient **LACOBRYGA**), seaport commune, Portugal, in Faro District, Algarve Province, beautifully situated on the western shore of Lagos Bay on the Atlantic Ocean. It has several churches, an aqueduct, and a great stone bridge spanning an arm of the sea. It is a railroad terminus and has industries of wine and fruit growing, and tunny and sardine fisheries. It was once the favorite residence of Henry the Navigator and was almost completely ruined by an earthquake in 1755. On Aug. 18, 1759, a French fleet was defeated off Lagos by British forces under Adm. Edward Boscawen. Pop. (1940) 6,938.

LAGRANGE, là-gränzh', **Joseph Louis**, French mathematician: b. Turin, Jan. 25, 1736; d. Paris, April 10, 1813. His great-grandfather was a cavalry officer in the French Army, and later served Sardinia. When scarcely 19, La-

grange was made mathematical professor in the artillery school at Turin. In 1764 he obtained the prize of the Academy of Sciences in Paris for a treatise on the libration of the moon, and in 1776 for another on the theory of the satellites of Jupiter. About this time he made a visit to Paris, where he became personally acquainted with D'Alembert, Clairaut, Condorcet and other savants. Soon after his return he received an invitation from Frederick the Great to go to Berlin, with the title of Director of the Academy. Here he lived for 20 years, and wrote his great work 'La Mécanique analytique.' After Frederick's death (1786) the persuasion of Mirabeau and the offer of a pension induced him to settle in Paris. He was the first professor of geometry in the Polytechnic School, and the first inscribed member of the Institute. He took no active part in the Revolution, and the law for the banishment of foreigners was not put in force against him. In 1794 he was appointed professor in the newly-established Normal School (École Normale Supérieure) at Paris (1794), as well as in the École Polytechnique. Napoleon bestowed upon him distinguished tokens of his favor, and he became member of the Senate, grand officer of the Legion of Honor and count of the empire. The most important of his works are his 'Mécanique analytique' (1788); 'Théorie des fonctions analytiques' (1797); 'Résolution des équations numériques' (1798); 'Leçons sur le Calcul des fonctions'; and 'Essai d'arithmétique politique.'

LAGUERRE, la'gär, Edmond Nicolas, French mathematician: b. Bar-le-Duc 9 April 1834; d. there, 14 Aug. 1886. His abilities had been already acknowledged by the Lyceum when his article solving the mathematical problem of angular solution was published (1853) in *Nouvelles Annales de Mathématiques*, he entering the École Polytechnique the same year. In 1885 he was elected member of the Academy of Sciences to succeed Serret in the geometry section, and shortly afterward he was appointed to the chair of physical mathematics at the College of France. His algebraic system applied to curves and spherical measurements were a great advance in science. Most of his writings found publication in *Nouvelles Annales*, *Comptes Rendus* and *Bulletin de la Société Philomatiques*. Among those works published by him are 'Note-sur la resolution des équations numériques' (Paris 1880); 'Théorie des équations numériques' (Paris 1884); 'Recherches sur la géométrie de direction' (Paris 1885). Posthumous honors were accorded him in rewarding him with the Prix Petit d'Ormoy in 1887. Consult Poincaré, 'Notice sur Laguerre' (Paris 1887).

LAGUNA, la-goo'na, N. Mex., Indian pueblo in Valencia County; alt. 5,795 feet; 50m. W. of Albuquerque; on the Santa Fe Railroad. It is in the Laguna Indian Reservation, which covers more than 125,000 acres of grazing land and irrigated farming area and includes the Acoma pueblo. This is one of the largest and most modernized pueblos. The San Jose de Laguna Church dates from 1699, and is decorated with Indian designs; there are paintings on elk's skin. A harvest dance is held annually, in September. See PUEBLO INDIANS, and KERESAN; also ACOMA, ISLETA, and JEMEZ. Pop. (1940) 1,011.

LAGUNA, Philippines, a province of the island of Luzón, situated in the southern part of the island, on the south and east shores of the Bay Lagoon (q.v.); area, including dependent islands, 752 square miles. The province is mountainous in the centre and north, and in the southwest is Mount Maquilang, 3,666 feet high; there are a number of rivers; the soil is very fertile; the climate moist and variable. A great variety of tropical plants and trees found in the Philippines grow here; the staple products are sugar, rice, corn, cotton, tobacco, indigo, cocoanut, betel nut and fruit and vegetables. There are a number of industries, including mills for the extraction of cocoanut oil, furniture manufacture, the manufacture of cheese and stock raising; there is considerable export trade, products being sent to all parts of the archipelago. Civil government was established in the province in July 1902. The inhabitants are mostly Tagalogs. A railway runs along the south shore of the bay from Santa Cruz (the capital, q.v.) to Manila. Pop. 148,000.

LAHARPE, la arp, Jean François d, French critic and author: b. Paris, 20 Nov. 1739; d. there, 11 Feb. 1803. He first brought out several volumes of 'Héroïdes' but first gained note by his tragedy 'Warwick' (1763) though his other tragedies met with no success. But his 'Éloges' on Henry IV, Fénelon, Racine etc., show refinement and added to his fame but his conceit and harsh criticisms made him numerous bitter enemies, nearly losing him the election (20 June 1776) to the Academy. He gave lectures, as professor of literature at the newly founded Lycée (1786-98) with great success. His articles as critic for the *Mercur de France* brought applause, also those under the title 'Lycée ou Cours de littérature' (Paris 1799-1805). His participation in the Revolution brought him five months in jail in 1794, but he became an enemy of revolution later at an earnest worker for religion and monarchy. He supervised a selection of his works in six volumes (Paris 1778), and his 'Œuvres choisies et posthumes' appeared in four volumes. Consult Sainte-Beuve, 'Causeries du lundi' (5 vols. Paris, 1856); Edlich, 'Jean François de la Harpe als Kritiker der französischen Literatur im Zeitalter Ludwigs XIV' (Leipzig 1910); not, 'Recherches sur La Harpe' (Dijon 1820).

LAHEE, Henry Charles, American writer on musical topics: b. London, England, 2 July 1856. He was educated at Saint Michael's College, Tenbury, Worcestershire, where he was chorister (1865-69), and was in the English mercantile marine (1871-79). Coming to the United States he was secretary of the New England Conservatory of Music at Boston (1891-99), and since the last-named date has conducted the musical agency in Boston. He has published 'Famous Singers of Yesterday and To-day' (1898); 'Famous Violinists of Yesterday and To-day' (1899); 'Famous Pianists' (1900); 'Grand Opera in America' (1901); 'The Organ and its Masters' (1902); 'Grand Opera Singers of To-day' (1912); 'Annals of Music in America' (1923), and contributions to periodicals.

LAHN, län, Germany, a tributary of the Rhine having its source in the Rothaargebirge Westphalia. Its length is 135 miles and is navigable from the mouth up to Giessen by aid of locks. The valley, sometimes quite narrow,

row, is rich in natural beauties and much visited by sight-seers. Ems is the principal town on the river's banks.

LAHORE, lä-hör', India, second city and capital of the Punjab, on the left bank of the Ravi, 298 miles northwest of Delhi by rail. The native city covers an area of 640 acres, surrounded by a brick wall 30 feet high, flanked by bastions, and approached by 13 gates. The streets are extremely narrow, and the houses have in general a mean and gloomy appearance; but these only appear by contrast with the magnificent structures by which they are dominated. "On the northeast side especially the mosque of Aurangzeb, with its plain white marble domes and simple minarets, the mausoleum of Ranjit Singh, with its rounded roof and projecting balconies, and the desecrated façade of the Mogul palace, stand side by side in front of an open grassy plain, exhibiting a grand *coup d'œil*." The citadel or fort stands on a slight but commanding eminence. The European quarter and the Mean Meer cantonment (three miles distant) lie to the south and east. Among modern buildings are the Punjab University, the Oriental College, Aichison Chief's College, Mayo Hospital, Victoria Jubilee Hall, school of art, Anglican cathedral, etc. It was at one time a great centre of the decorative arts—gold and silver ware, glass and enamel work—but most of these have gradually declined or vanished, and was famous for its superb cloths made of Bokhara thread. The North-West Railway workshops employ 5,000 men; the other industries include soap, acids, printing, leather, cotton and woollens, furniture, bricks and tiles; and the city is the centre of a rich agricultural district. A municipality was organized in 1867, water supply was introduced in 1881 and a drainage system in 1883.

In 1524 Lahore became the seat of the Mogul Empire, under which it reached its greatest splendor. Before passing into the hands of the British it was the capital of the khans. Pop. about 429,000 (60 per cent Mohammedan). Lahore division (commissionership) has an area of 17,154 square miles, and population of 4,656,629. The Lahore district has an area of 3,704 square miles; pop. about 1,250,000.

LAHR, lär, Germany, town in the district of Offenburg, Baden, on the Schutter River, junction of the Dinglingen-Lahr State Railway and street railways. It has three Evangelical and one Catholic church, a monument to Bismarck and another to the poet Eichrodt. Among its other public buildings are a gymnasium, high school, trade school, Imperial orphan asylum and several government edifices. Among its manufactures are ovens, pottery, snuff and cigars, roof-paper, toys, frames, chicory, leather, artificial flowers, also book-binding and lithographic work and wine culture are done on a large scale. The town has been in existence since 1278 and was the principal town under the Geroldseck government, later belonging to Nassau, and (1497) coming under rule of Baden. Pop. 15,191.

LAIBACH, li'bäh, Slovenian *Ljubljana*, capital of the division of Carniola, Jugo-Slavia, situated on the Laibach River, which is spanned by seven bridges, and on the southern

branch of the Vienna-Trieste and the Laibach-Oberlaibach, and other railways. It is embellished with large squares, and the monument to Radetzki von Fernkorn, and beautiful promenades. Among its more important edifices are the Saint Nicholas Cathedral (18th century) with its high cupola and frescoes; the Saint Jacob's, and Evangelical churches, the latter in Byzantine style, Ursuline convent; government building, palace of justice, agricultural building, town-hall, bishop's palace, casino, etc. A monument was erected (1886) to Anastasius Grün. The industrial establishments include a cotton-goods factory, bell foundry, iron foundry, machine works, candy and chicory factories and manufactures of wire, paper, twine, stone and earthenware, leather, beer-brewery, electrical works, etc. Among her educational institutions are two Obergymnasias, a high school, teachers' institutes, a theological institute, trade school, commercial institute, students' library, museum and theatre. The museum contains interesting relics of a lacustrine village discovered in the Laibach fens. The Schlossberg towers high over the town and has a castle dating 1416–1520, partially destroyed (1813) by the French. The town is generally acknowledged to be the seat of the ancient Emona. In 1270 Ottokar of Bohemia captured the place, and it received municipal rights in 1416. After capitulation (1809) to the French it was occupied till 1813 as seat of the governor-general of the Illyrian provinces. The Congress of Monarchs met here to debate the situation of Italy which later brought about the overthrow of the liberal constitution of Naples, England being dissident. Consult Müllner, A., 'Emona' (Laibach 1879); Richter, 'Geschichte der Stadt Laibach bis 1461' (in Klum's 'Archiv für Geschichte Krains,' parts 2 and 3). Pop. 57,000.

LAILER, Harry Wellington, American socialist author: b. Brooklyn, N. Y., 18 Feb. 1884. He was educated at Wesleyan University A.B. (1907) and received the degree of LL.B. at Brooklyn Law School (1910), and of Ph.D., Columbia (1914). He was member of the reportorial staff of the *Brooklyn Eagle* (1907–10), a founder of the Intercollegiate Socialist Society (1905) and its secretary from 1910, an association on similar lines as the English Fabian Society. He was editor of the *Intercollegiate Socialist* (1913–19); of *Socialist Review* (1919–21); one of editors of *Labor Age* since 1921. He studied the labor question and social movements in Europe and here and has delivered numerous lectures on these subjects. He wrote 'Boycotts and the Labor Struggle' (1914); 'The Socialism of Our Times' (1929); etc.

LAING, läng, Alexander Gordon, British African explorer: b. Edinburgh, Scotland, 27 Dec. 1793; d. near Timbuctoo, Africa, 26 Sept. 1826. After serving for several years in the English army, he entered on his career as an African traveler in 1822. In that year he visited Falaba, the capital of the Sulima country, got to within three days' journey of the supposed source of the Niger, but had perforce to return. An opportunity having presented itself of proceeding on the discovery of the course of the Niger, it was arranged that he should accompany the caravan from Tripoli to Timbuctoo. He left Tripoli in July 1825 in com-

pany with the Sheik Babani, and after a tedious journey of nearly 1,000 miles arrived at Ghadames; and on 3 December reached Ensala. He quitted Ensala on 10 Jan. 1826 and on the 26th entered on the sandy desert of Tenezaroff. After some fighting with the Tuaregs he arrived at Timbuctoo on 18 August, the first European who had ever reached that city. After a short stay he set out on his return, but was assassinated on 26 Sept. 1826. The murder was committed by the order of the son of the Prime Minister of Tripoli, whose agent, Babani was. Laing's journals, which he had prepared for the press, were published in 1825 under the title, 'Travels in the Timmannee, Kooranko and Soolima, Countries of Western Africa.'

LAING, Gordon Jennings, American classical scholar: b. London, Ontario, 16 Oct. 1869. He was graduated (1891) at the University of Toronto, took the degree Ph.D. at Johns Hopkins (1896), then studied for a year at the American School of Classical Studies, at Rome. He was instructor of classics at Whetham College, Vancouver, British Columbia (1892-93); lectured on Greek and Latin (1893) at Toronto University, and on Latin literature (1897-99) at Bryn Mawr College. He was made professor at the University of Chicago (1913); dean of the Faculty of Arts McGill (1921-23), and then professor of Latin, and chairman of the department, University of Chicago. He was managing general editor of the University of Chicago (1908-21), and from 1923. He edited 'Masterpiece of Latin Literature'; 'Selections from Ovid'; 'Phormio of Terence.' He died at Chicago, Ill., Sept. 1, 1945.

LAING, Malcolm, Scottish historian: b. near Kirkwall, Orkney, 1762; d. there, 6 Nov. 1818. He was a lawyer by profession and later a member of Parliament, but devoted himself principally to historical investigation. He completed the last volume of Henry's 'History of Great Britain' (1785) and was the author of a 'History of Scotland' (1800), which may be regarded as supplementary to Robertson's history and is a monument of painstaking research. In the preliminary dissertation he presents an elaborate argument to prove Queen Mary's participation in the murder of Darnley. He published in 1805 an edition of Ossian.

LAING, Samuel, Scottish author: b. Kirkwall, Orkney, 4 Oct. 1780; d. Edinburgh, 23 April 1868. Entering the army in 1805 he served in the Peninsular War and in 1834 traveled in the Scandinavian countries. He published 'Journal of a Residence in Norway 1834-36' (1836); and 'A Tour in Sweden' (1839); 'Notes of a Traveller' (1842); but is best known by his important translation of the 'Heimskringla or Icelandic Chronicle of the Kings of Norway, with a Preliminary Dissertation' (1844).

LAING, Samuel, English railway administrator, politician and author: b. Edinburgh, 12 Dec. 1812; d. Sydenham Hills, Kent, 6 Aug. 1897. He is the son of Samuel Laing (1780-1868). He was prominently identified with railway legislation in England, the inception of "parliamentary" passenger trains with a fare of one penny a mile being due to his suggestion, and he was chairman of the Brighton and South Coast Railway. He was for many years

prominent in Parliament and from 1860 to 1863 held the office of Finance Minister in India. In his old age he took to writing books, mainly philosophical. Of his works, 'Modern Science and Modern Thought' (1885), and 'A Modern Zoroastrian' (1887), have occasioned some discussion. His other publications of a miscellaneous character include 'India and China' (1863); 'A Sporting Quixote; or the Life and Adventures of the Hon. Augustus Fitzmuddle' (1886); 'The Antiquity of Man' (1890); 'Human Origins' (1892).

LAIRD, Iärd, David, Canadian politician: b. New Glasgow, Prince Edward's Island, 1833; d. Ottawa, 12 Jan. 1914. He was educated at Truro, Nova Scotia, and subsequently established and edited the *Patriot* in Charlottetown. In 1871 he became a member of the assembly of Prince Edward Island and after the admission of the province to the Dominion was a member of the House of Commons and Minister of the Interior, 1873-76. He was lieutenant-governor of the Northwest Territory, 1876-81. In 1877 and 1899 he was a commissioner in the arranging of treaties which extinguished by purchase the Indian title to great tracts in the Qu'Appelle and Peace River districts.

LAIRD, John, English shipbuilder: b. Greenock, Scotland, 14 June 1805; d. Birkenhead, Cheshire, England, 29 Oct. 1874. His shipyards were at Birkenhead, on the other side of the Mersey from Liverpool, and he was for a long time the head of the firm of John Laird and Sons. He was the first builder of iron steamships and built the *John Randolph*, the *Nemesis* and the *Alabama*. The first was the earliest iron vessel that was ever seen in America and was sent out to Savannah in pieces; the second, the first armed vessel of iron. The history of the *Alabama* is well known. He entered Parliament for Birkenhead in 1861 when he retired from active business.

LAIRESSE, lä'rës', Gerard de, Dutch painter and etcher: b. Liège, Belgium, 1640; d. Amsterdam, 11 June 1711. He was early a pupil of his father, Regnier Lairesse, and of Flemmels, and left them for Utrecht, and afterward Amsterdam, where he labored hard for perfection in his art. He first of all confined himself to models of the antique and the classical ideals of Poussin. His work was thus distinguished by somewhat wearisome mannerism and his pictures very frequently seem painted in an unnatural silvery, metallic tone. His masterpieces are to be seen in Amsterdam, Schleissheim, Cassel and in the Louvre, Paris. His ideas on art, as dictated to his pupils and associates, together with his etchings, were published after his death in two volumes, under the title 'Het Groot Schilderboek' (1712). The work has been translated into German, French and English and has had a great influence in the art education of the 18th century.

LAIS, lä'is, the name of two Greek hetærae, celebrated for their remarkable beauty. The first lived at Corinth at the time of the Peloponnesian War; the most eminent and wealthy men of the time, including Aristippus, the Cyrenaic philosopher, and Diogenes, the cynic, fell under her spell. The younger Lais was the daughter of Timandra and was born

t Hyccara, Sicily, 422 B.C. She came to Corinth in her seventh year, and was educated in her profession by the painter Apelles. Later in life she followed a certain Hippostratus to Thessaly, where she was stoned to death by women in the temple of Aphrodite. But it is impossible to sift the really historic from mere anecdotal tradition in the accounts of these women which have come down to us. Consult Jacobs, 'Lais, die ältere und die jüngere' (1830); Wieland, 'Aristipp.'

LAISSEZ-FAIRE, lâ'sâ fâr'. A slogan of great potency in the political and economic discussions of the 18th century, particularly in France. It made a strong appeal to the jurists and to the philosophers of an age engrossed with the idea of a "natural law," which was higher than the edicts of kings and parliaments and was the only right rule of human conduct. The French lawyers from the earliest times showed a predilection for the *droit naturel* in their theoretical disquisitions; but in practice, strangely enough, they strenuously adhered to the medley of provincial *coutumes*, Roman jurisprudence and royal proscriptions, which constituted the laws of their country. It was the Marquis d'Arguesau who first injected the natural law into the domain of legislative polemics and made the phrase "laissez-faire" a postulate for political argument. "Laissez-faire," he declared, as early as 1735, should be the fundamental rule of government and should be adopted as its watchword by every public authority. "To govern better," he said, "it is necessary to govern less," a pronouncement which was to become the palladium of liberty with the Jeffersonian school of politics in America, and with individualists everywhere for a century and a half to come. But d'Arguesau, probably, got his catchword from Colbert, who records the fact that in 1680 a merchant, Legendre by name, on being asked what was required for the advancement of commerce and industry, replied: "Laissez-faire"—leave them alone. What was meant was that the production and exchange of commodities should be relieved of the restrictive regulations and taxes with which they were burdened. Not only was international commerce hampered by export and import duties, of which few persons of those times would have thought to make complaint, but domestic trade was impeded by equally great, if not greater, obstacles. Every road was barred by gates at which toll had to be paid to the king or provincial seigneur and every commune exacted octroi and other charges on everything that was brought in from other communes or the surrounding country. License fees were exacted from every calling and many industries were monopolized for the revenue they yielded to the state.

These were the conditions against which the "Physiocrats"—the elder Mirabeau, Mercier de la Riviere, Turgot and, above all, François Quesnay launched their protest. Quesnay, a philosopher and surgeon of note, and physician to Madame Pompadour, made the phrase "laissez-faire" the groundwork of his system of economics. He contributed a number of articles to the 'Encyclopedie' of Diderot, wherein his theory of free trade was fully developed. The free exercise of his faculties, he declared,

is every man's natural right as long as in the exercise of this right the similar rights of all other men are respected by him. Starting with this as a postulate, Quesnay deduced as a corollary, the right of every man to the undisturbed enjoyment of the fruits of his handiwork or intellectual activity. The free enjoyment thereof included the right to freely dispose of or exchange the commodities and other things of value thus produced. Any tax or other regulation imposed by public authority, which hinder such production, enjoyment or exchange, are invasions of natural right. The proper functions of government are, the protection of life and property and the administration of justice, and the assumption of greater or other powers is supererogation. "Laissez faire, laissez passer," let men make things and let the products pass. This is natural law in an economic dress. As a by-product of his theorizing Quesnay evolved the *impôt unique*, or single tax. Agriculture, he declared, stands apart from other industries in that it alone yields a *net*. All other industries involve merely a change of materials in form and position; he, therefore, calls them "barren." But agriculture produces a "surplus value." The productiveness of agricultural land varies; but the rental value automatically fixes the relative capacity of any given piece of land to yield a *net* or surplus. Let taxation, therefore, be limited to ground rent. Incidentally this would prevent the friction which is caused by the shifting of taxation; a tax in the form of rent could not be shifted. The *impôt unique*, of course, implied the abolition of customs duties, transit dues and all other taxes on industry and commerce. Adam Smith made the law of supply and demand, operating without restriction in a free market, the basis of his economic system. Jeremy Bentham adopted the reasoning of Quesnay with respect to the functions of the state, saying that political economy requires nothing from the latter but the security of industry from governmental interference. In other respects Bentham was not in sympathy with the theory of "natural law." Indeed his pronouncements, that the state is the source of all law and that legislation should have regard for "the greatest good of the greatest number," are, in the main, negations of the doctrine of "laissez-faire." The phrase, however, obtained currency in England, and more (one-sided) honor there than in the land of its origin. "Laissez-faire" became the shibboleth of the free traders of the Manchester school, and of the orthodox political economy everywhere. Carlyle launched his invectives against the "dismal science" in vain. "Supply and demand and the devil take the hindmost" was his energetic translation of the phrase into English. But the policy of "hands-off" or "laissez-faire" remained a fixed principle in English legislation until quite recent times, particularly with respect to the taxation of the rental value of, or potential surplus product from, land. Public opinion, and scientific opinion as well, has undergone a complete change. The extreme individualism, which supplied most of the axioms of politics and law down to the last quarter of the 19th century, and a long way into that period in some countries, has given way nearly everywhere

Aidful, protective and regulative intervention in industrial affairs is being more and more completely recognized as a legitimate governmental function. The greatest good to the greatest number, rather than natural right and the greatest possible liberty of the individual, has become the active principle of modern legislation.

STEPHEN PFEIL.

LAJARD, là'zhār, Jean Baptiste Félix, French archaeologist: b. Lyon, March 30, 1783; d. Tours, September 1858. While attached to the Persian mission he collected the valuable series of ancient Babylonian cylinders now located in the Bibliothèque Nationale. He studied the close connection of the Greek civilization with the Orient and the origin of the Hellenic religions. He also served in various diplomatic capacities in Greece, Russia, and Denmark. He was a member of the Académie des Inscriptions and was author among other works of *Recherches sur le culte public de Mithra en Orient et en Occident* (Paris 1867).

LAJARTE, Théodore Edouard Dufaure de, French author on music: b. Bordeaux, July 10, 1826; d. Paris, June 20, 1890. He studied at the Paris Conservatory and wrote many small operettas but was best known for his works on music history. He served as sub-librarian at the Paris Opéra and catalogued the operas produced there in his work *Bibliothèque musicale du théâtre de l'Opéra* (1876-1879). He also edited various collections of music.

LAJOIE, lāsh'ō-wā, Napoleon (known as LARRY LAJOIE), American professional baseball player: b. Woonsocket, Rhode Island, Sept. 5, 1875. He played second base in the National League with Philadelphia (1896-1900) and was in the American League with Philadelphia (1901; 1915-1916) and Cleveland (1902-1914). He was the American League batting champion in 1901, 1903, and 1904, and had an average of .338. He is a member of the Baseball Hall of Fame.

LA JOLLA, là hō'yā; hoi'ā, section of San Diego, California. It is the location of Scripps Institution of Oceanography, and the sea-washed caves attract many visitors yearly.

LA JONQUIERE, là zhōn'kyār', MARQUIS DE (JACQUES PIERRE TAFFANE), French naval officer: b. Lagrassies, near Albi, about 1686; d. Quebec, Canada, March 17, 1752 (some authorities give his dates as 1680-1753). He participated in the taking of Rio de Janeiro (1711), the Battle of Toulon (1744), and commanded the French fleet at the Battle of Finisterre (1747). Taken prisoner, he gained his liberty on the Treaty of Aix-la-Chapelle when (1749) he went to Quebec as governor of Canada.

LAJPAT RAI, Lala, Indian nationalist and social reformer: b. Jagron, Punjab, 1865; d. Lahore, Nov. 17, 1928. After taking a law degree in 1885 at the Punjab University, Lahore, he commenced practice at Hissar. He returned to Lahore to practice, and there became an active member of the Indian National Congress. As a consequence of his part in inciting unrest among members of an agricultural settlement in 1907, he was deported to Mandalay, Burma, without trial, but as a result of protests made in the

House of Commons he was shortly returned to India. During 1921-1923 he was interned to sedition; and in 1928 he carried a measure in the Legislative Assembly for boycott of the Indian statutory commission headed by Sir John Simon. While resident in the United States during World War I, he wrote *The Arya Samaj* (1915), *Young India* (1917), and *National Education in India* (1920); in reply to Katharine Mayo's *Mother India*, he wrote *Unhappy India* (1928).

LA JUNTA, là hūn'tā, city, Colorado, Otero County seat; altitude 4,050 feet; 63 miles south east of Pueblo; on the Arkansas River; served by the Atchison, Topeka and Santa Fe Railroad; with a municipal airport and airline service. It has large railroad shops and processes the meat and dairy products from neighboring stockraising and dairy-farming lands. The Bent's Fort Museum (erected in commemoration of Old Fort Bent) maintains a Kit Carson collection. La Junta was settled in 1863, incorporated as a town in 1881, and as a city in 1901. It has a city manager form of government. Pop. (1940) 7,040; (1950) 7,679.

LAKANAL, là-kā-nāl', Joseph, French statesman: b. Serres, July 14, 1762; d. Paris, Feb. 14, 1845. He was educated by the Doctrinaires, joined their congregation and became a teacher, then professor in philosophy at Moulins. He was sent to the National Convention (1792) as deputy for his department and voted for the unconditional death of Louis XVI. He rose to the presidency of the Committee of Public Instruction in 1793. He took a prominent part in the creation of the École Normale, Institute, central schools, primary schools and in the adoption of telegraphy. He entered the Council of Five Hundred and held various educational posts. In 1816 he was banished as a regicide and emigrated to the United States where he became president of the University of Louisiana (1817-1825). On the establishment of the consulate he returned to France in 1834.

LAKE, Gerard, 1st Viscount LAKE, British army officer: b. July 27, 1744; d. London, Feb. 20, 1808. He became an ensign in the foot guards in 1758, and during 1760-1762 saw active service in Germany. In 1781 he was in North America, commanding a battalion in the campaign which terminated with the surrender of General Cornwallis at Yorktown, and during 1793-1794 he commanded a brigade in the Low Countries. Appointed commander in chief of the troops in Ireland in 1798, he routed the rebels at Vinegar Hill and forced their French allies to surrender at Ballinamuck. In 1801 he arrived in Calcutta to assume command of the British force in India. With outbreak of the war against the Marathas in 1803, he captured Delhi and Aggra and won a crushing victory at Laswari. At Farrukhabad-cum-Fategarh, in 1804, he again defeated the Marathas, and for this success was created a baron. The next year he pursued Holkar, the Maratha leader, into the Punjab and forced him to surrender at Amritsar. He returned to Britain in 1806, and in 1807 he received the thanks of Parliament and a viscounty.

LAKE, Kirsopp, English theologian: Southampton, April 7, 1872; d. South Pasadena, Calif., Nov. 10, 1946. He graduated in theology

at Lincoln College, Oxford, in 1895, was ordained in the Church of England, and appointed curate at Lumley, Durham. In 1897 he returned to Oxford as curate of Saint Mary the Virgin, and in 1904 he was appointed professor of theology at Leiden. He went to Harvard University in 1914 to become professor of early Christian literature, and five years later he was made Winn professor of ecclesiastical history; in 1932 he was appointed professor of history at Harvard, a chair which he continued to occupy until his retirement in 1938. He organized the expedition which excavated Samaria between 1929 and 1934, and that which excavated at Van during 1938-1939. His numerous writings included *The Historical Evidence for the Resurrection of Jesus Christ* (1907); *The Early Days of Monasticism on Mount Athos* (1909); *Landmarks in Early Christian History* (1920); *Religion Yesterday and To-morrow* (1925); *The Beginnings of Christianity*, 5 vols. (1920-1932).

LAKE, Simon, American naval architect and mechanical engineer; b. Pleasantville, N. J., Sept. 4, 1866; d. Bridgeport, Conn., June 3, 1945. He invented the even-keel type of submarine torpedo boat and in 1897 built the *Argonaut*, the first submarine to operate successfully in the open sea. He spent several years in Russia, England, and Germany in an advisory capacity on the construction of torpedo boats. He also invented the apparatus for locating sunken vessels.

LAKE (Latin *Lacus*), a considerable inland body of still water either salt or fresh.

Lakes are natural reservoirs collecting in depressions which are formed in the following ways: (1) where rising ridges cut off an arm of the sea such as Lake Nicaragua, once a gulf of the Pacific; (2) where surface strata subside like Eyre in Australia, or are dissolved like the limestone lakes of Florida; (3) river erosion which deepened if it did not create the basins of the Great Lakes; (4) the rending of global strata like the Great Rift Valley of Africa which produced abysmal Tanganyika and Nyasa; (5) glacial action which has gouged out innumerable lake beds or obstructed mountain valleys with moraine; (6) volcanic action where lava has dammed up exit valleys like Lake Kivu in Africa, or exposed bowl-like dead craters; (7) mere swellings in a river channel like Geneva, an enlargement of the River Rhone; (8) minor agencies such as vegetation, beaver dams, or depressions made by enormous meteors.

Lakes are fed (1) by rivers which nevertheless tend to destroy them by depositing silt and cutting down the outlet level, or (2) are catch basins of local rains and snows, or (3) are fed from springs or merely expose the underground water table.

Global distribution is most unequal. Nearly half the world's lakes are in Canada. Florida boasts 30 thousand. Fresh lakes abound in Finland and Scandinavia; salt lakes in Turkestan.

Lakes range in altitude from the Dead Sea 1,292 feet below sea level to the sky lakes of the Himalayan region more than 16,000 feet above. They vary in depth from mud-choked Lake Chad in Africa to Asia's cavernous Baikal which recent surveys give a maximum depth of over 5,700 feet. The largest lake in the world is the Caspian Sea, 169,300 square miles. Among fresh water lakes Superior leads in area, 31,820 square miles, but

Baikal is the most capacious, for it could swallow all five of the Great Lakes and, indeed, engulf the Baltic Sea.

Every lake is either losing or accumulating mineral content. Russian Lake Onego, one of the freshest of all lakes, was once an arm of the Arctic Ocean, while Great Salt Lake, a dwindled remnant of fresh Lake Bonneville, is now seven times saltier than the Atlantic.

Lakes are transient landscape features. They degenerate first into swamps then into meadows. It is predicted that half the lakes in Minnesota will dry up within fifty years. Even Superior is a relic of a much larger lake. Among dying lakes are the playas of South America and Australia, dust spots except during periodic rains. There are unnumbered dead lakes. Death Valley merely exposes the bed of former Lake Manly.

Every large lake is a miniature world of specialized flora and fauna. Baikal abounds in species found nowhere else. Some forms suggest the weird denizens of the abysmal sea. Lakes have also developed definite cultures as recorded in the prehistoric villages of the Swiss lake dwellers. Salt lakes are the source of useful minerals; fresh lakes of water and fish. Lakes are notable avenues of commerce, favorite vacation areas, and often of great beauty like Lake Louise in Canada or Como in Italy.

Large lakes influence climate. The orchard belt of Ontario extends but a few miles from water. Even small lakes are welcome humidors in arid regions.

The oldest of artificial lakes was mysterious Moeris which impounded the overflow of the Nile. More ambitious are projects in the valleys of the Tennessee, the Columbia, and the Missouri rivers. Lake Meade, formed when the Colorado backed up behind Hoover Dam, has one-twelfth the volume of Lake Erie. For, having destroyed innumerable lakes and thus imperiled vital water resources, mankind is now creating new ones.

FERDINAND C. LANE.

LAKE. The term lake is broadly used to refer to colored pigments containing organic compounds. In the strictest sense a lake is made up of metallic hydrous oxides, of which alumina is typical, on the surface of which a dye is adsorbed. This phenomenon is analogous to the application of dyes to inert fibers, and the colors are singularly fast and permanent. Some lakes are mechanical mixtures made by simple grinding together of highly colored and colorless materials. Insoluble dyes made up of sulfonates of colored compounds; of metallic compounds in which the metal is linked to such elements as nitrogen by secondary valences; and of carbon compounds containing no metal but insoluble in water and oil are all known more correctly as toners, although often called lakes. Lakes are used in paints and printing inks. When colored substances are applied to cloth previously treated with metallic compounds from which hydrous oxides are formed, the same sort of adsorption takes place, but the product formed on the cloth is not called a lake, and the operation is known as dyeing with a "mordant."

LAKE CHAMPLAIN, Battle of. See CHAMPLAIN, LAKE, BATTLE OF.

LAKE CHARLES, city, Louisiana, Calcasieu Parish seat; altitude 20 feet; situated on

the Calcasieu River; 237 miles west of New Orleans and 150 miles east of Houston; and is a port of entry of the 21st customs district. The Calcasieu river, lake, and pass provide a channel with minimum depth of 30 feet from the city to the Gulf of Mexico. Lake Charles is served by the Kansas City Southern, the Missouri Pacific, and the Southern Pacific railroads; and is on a federal highway. The city is the center of a rich agricultural region producing rice and cattle. In its early years, lumbering was its principal industry, but other manufactures have developed, such as petroleum and petroleum equipment, chemical products, concrete pipe, and synthetic rubber. There is still a pine and hardwood timber industry. Lake Charles adopted commission government in 1913. The first permanent settlement on this site was made in 1852. Lake Charles was incorporated in 1857, and chartered as a city in 1886. It is the seat of a state trade school and of a state college. Lake Charles has a Carnegie library service. Pop. (1950) 41,202.

LAKE CITY, city, Florida, Columbia County seat; altitude 200 feet; 59 miles west of Jacksonville; on the Seaboard Air Line, the Atlantic Coast Line, and the Georgia Southern and Florida railroads. It is in an agricultural area raising tobacco, corn, peanuts, cotton, melons, and vegetables, with trade in lumber and naval stores. The headquarters for the Osceola National Forest is located here. The city was first called Alligator after the chief of a nearby Seminole Indian village. It was incorporated in 1859. Pop. (1940) 5,836; (1950) 7,469.

LAKE CITY, city, Minnesota, Wabasha County; altitude 690 feet; 31 miles northeast of Rochester; on Lake Pepin, which is navigable and connects with the Mississippi River; on the Chicago, Milwaukee, St. Paul and Pacific Railroad. It is situated in an agricultural and dairying region. The chief industries are flour milling, wholesale nurseries, creameries, and foundries. Lake City has a Carnegie library and a historical society museum. The government is by mayor and council; water system is owned by the city. Pop. (1940) 3,204; (1950) 3,450.

LAKE CITY, city, South Carolina, in Florence County; altitude 70 feet; 22 miles south of Florence; on the Atlantic Coast Line railway. It produces stock, poultry, and has many truck farms. Pop. (1940) 2,522; (1950) 5,097.

LAKE DWELLINGS, dwelling houses of men built on piles in the water near the shore of a lake. They may be considered in two categories: the prehistoric structures of Switzerland and the neighboring region; and the more modern structures elsewhere.

Swiss Lake Dwellings.—Villages constructed by men of the Neolithic and subsequent ages of culture in the water of the lakes of northwestern Switzerland, and in adjoining parts of France and Italy. They do not represent an epoch in itself, but only incidents of situations with reference to the social conditions of their time. It may be supposed that the desire for safety was the ruling motive in constructing homes surrounded by water. Nothing more is known of these villages than may be gathered from a study of their remains. They are found in all the larger lakes as well as in some small ones—perhaps 300

sites in Switzerland and many others in Italy. The first discovery was in Lake Zurich in 1856 when a season of extremely low water disclosed groups of stumps of piles at a little distance from the shore; and dredging recovered hundreds of implements of stone, bone, and deer-horn, that had been lying in the mud for thousands of years. Subsequent exploration of the submerged margin of other Swiss lakes showed many more town sites, and exhumed a vast quantity of relics, in some cases only those of the Stone Age, in other metallic implements denoting occupation in the Age of Bronze, while a very few sites showed an intermediate condition of culture. The custom of making these lacustrine villages continued therefore, from the time of the Neolithic people—probably from their first advent—on through the Bronze Age and into the more modern time when iron had come into use. The occupation of these villages, however, was far from continuous. At Robenhhausen, on the ancient Lake of Pfäfers, now a dry marsh, three Neolithic occupations appear, one on top of the other, and each was destroyed before the next began. The tops of each set of piles are from three to five feet higher than the earlier set. The number of houses in the first occupation has never been estimated; that of the second has been estimated at 30, and the third and last at 50 houses. The settlements covered nearly three acres and contained about 100,000 piles. At Morges, on Lake Geneva again, three different stations close together evidently belong to different times. One has yielded no metal; the second a mixture of stone and the straight, flat, bronze hatchets characteristic of the beginning of the Bronze period; the third only the finest of advanced bronzework. It is probable that these successive occupations represent as many catastrophes, most likely overwhelming conquests in which the places were sacked and swept away by fire. Evidence of conflagration is frequently noticed. In such a case decay and ice would gradually dispose of the piles near the surface of the water, but where it was deep, or the timbers were sunk in mud they would be preserved. A complete dugout canoe has been found in one place. Burned towns might frequently have been rebuilt, but finally all were abandoned, and new towns arose nearby in subsequent centuries. Some of the more recent villages were of comparatively great size. That at Morges was 1,200 feet long by 150 broad, and is estimated to have housed 1,200 inhabitants. Much study has been given to the plan and construction of these lacustrine habitations. Although in some of the little lakes foundations of bundles of withes, or of heaps of stones, were made, as in building crannogs, most villages rested on thousands of piles. The labor involved must have been prodigious, especially in the Stone Age, when trees had to be felled and cleared of limbs, and piles sharpened, with only stone hatchets and fire for tools. The necessary number of piles having been driven into the bottom of the lake, their tops were cut to a general level and then floored with planking or slabs, on which the buildings were erected. A narrow bridge, perhaps with a draw, connected the platform with the shore. What the houses and other superstructures were like is a matter of doubt. They must have been fairly substantial and tight to withstand the winter cold and mountain gales, and no doubt contained fireplaces of stones and clay for warmth and cooking purposes. It

probable that they were usually formed of reeds or slender poles covering the frame, and coated with clay, forming wattle-and-daub huts, as fragments of such clay walls, hardened by fire, have been found in abundance.

Other Lake Dwellers.—Antiquarians and travelers have described similar dwellings, and even villages still in use in various parts of the world. Herodotus, who visited Thrace early in the 5th century B.C., saw the natives about Lake Prasias living in a lacustrine village precisely like those of ancient Switzerland; modern Rumelian fishermen around Lake Prasias still build and inhabit similar dwellings. The same customs followed by tribes dwelling on marshes, lake borders or river courses in central Africa, the East Indies and Malaya, Australasia and in tropical America. The motives nowadays are not always, if ever, fear of enemies, but rather convenience, since such folks are usually dependent on boats for travel, or are engaged in fisheries of some sort, or find it necessary to sleep above the wet jungle soil, and out of the way of dangerous animals and annoying vermin. One of the most prominent examples is that which led European explorers to give the name Venezuela ("Little Venice") to the northern coast of South America. Around Lake Maracaibo the Indians dwelt in the rainy season in flimsy shelters perched on piles driven in the water, the shorter ones carrying the sills and floor, and the longer ones the roof-poles. They made platforms for storing property, and little islands as refuges for their meager livestock. But there is a well-known example nearer home. The Irish, and to some extent the Scottish and English of old times, had lake dwellings that were made in the following way and were styled crannogs.

Crannogs.—Great quantities of small stems, reeds and the like are collected and sunk by means of stones in the lake, so as to form an island. Very often advantage is taken of the presence of an island just level with the surface of the water, which can be raised a foot or two above the surface with comparatively little labor. Sometimes a few upright piles are driven in on top after the chief part of the island has been raised in the manner described. When the island thus raised to a sufficient height it is frequently strengthened by an enclosure of stakes driven to the bottom of the lake perpendicularly. A platform of thin stems of trees, either round or split into boards, is then made on top of the island, and this supports the structures that are built on them. The crannogs of Ireland appear to have been used as strongholds rather than as dwellings.

Consult Keller, Ferdinand, *Lake Dwellings of Switzerland and Other Parts of Europe*, trans. by John Edward Murray (London 1866); Munro, R., *Ancient Scottish Lake Dwellings* (Edinburgh 1882); Wood-Martin, W. G., *Lake Dwellings of Ireland* (Dublin 1886); and Munro, R., *Lake Dwellings of Europe* (London 1890).

ERNEST INGERSOLL.

LAKE ERIE, Battle of. See ERIE, LAKE, BATTLE OF.

LAKE FOREST, city, Illinois, in Lake Michigan; altitude 704 feet; on Lake Michigan; 28 miles north of Chicago; on the Chicago and North Western, and the Chicago North Shore and Milwaukee railroads. This is a North Shore residential suburb, with no industries. It is the site of Lake Forest College and of Barat College.

College of the Sacred Heart (Roman Catholic). Founded in 1857, it was chartered as a city in 1861. It has mayor and council, with a business manager. Pop. (1950) 7,694.

LAKE FOREST COLLEGE, at Lake Forest, Illinois, is an accredited coeducational institution. Originally chartered as Lind University in 1857 the name was changed in 1865 to Lake Forest University. Affiliations with various other schools were discontinued in 1902 at which time the name became Lake Forest College. In 1925 the college sold Ferry Hall (a girls' preparatory school opened in 1869) and Lake Forest Academy (a boys' preparatory school opened in 1858); each is now privately maintained by separate boards of trustees. The bachelor of arts degree is granted in arts and business administration and the degree of bachelor of science is given in the nursing school. Student enrollment in 1950 was 997.

LAKE GENEVA, city, Wisconsin, in Walworth County; altitude 890 feet; on the Chicago and North Western Railroad; by rail, 71 miles northwest of Chicago. The city, located on the shore of Lake Geneva, is a popular resort. The Yerkes Observatory, operated by the University of Chicago, is located here. The surrounding area is agricultural. The municipality was first incorporated as a village in 1833. Its government is administered by mayor and council. The water supply system is municipally owned. Pop. (1940) 3,238; (1950) 4,279.

LAKE GEORGE, village, New York, in Warren County; on the southern tip of Lake George; 40 miles northeast of Amsterdam; on the Delaware and Hudson Railroad. It is of importance as a summer resort. Pop. (1940) 803; (1950) 1,005. See also GEORGE, LAKE.

LAKE OF THE WOODS, a boundary lake, partly in the province of Ontario, Canada, and partly within the state of Minnesota, and with a small part in Manitoba, 190 miles northwest of Lake Superior and 377 feet above its level. It is broken by one long promontory and several smaller ones into distinct portions, of which only the southern, containing Big Island, is properly designated the Lake of the Woods, while the eastern bears the name of Whitefish Bay, the northern, which is studded with islands, being called Clearwater Bay, and the northwestern, Shoal Lake. The whole expanse of water forms a single lake of very irregular shape about 65 miles in length and from 10 to 60 miles in breadth, the water area having a total of about 1,851 square miles of which 466 square miles are in the United States. It is navigable for vessels, drawing not more than nine feet of water. Rainy River, the principal feeder of the lake, enters it at its southeastern extremity, just below Fort Louise; its discharge is at the north by the Winnipeg. It abounds with sturgeon. The boundary between Canada and the United States follows the Rainy River to its mouth in the lake, and then proceeds across the lake in such a way as to leave Big Island to Canada, while giving most of the Lake of the Woods proper to Minnesota. A little west of the meridian of 95° the boundary strikes due south to meet the parallel of 49°, which is then followed, the result being that the United States owns an isolated portion

of the land on the northwest shore. See also **BOUNDARIES OF THE UNITED STATES.**

LAKE PLACID, village, New York, in Essex County; altitude 1,740 feet; 40 miles southwest of Plattsburg; on the New York Central Railroad. A resort town, it is situated in the heart of the Adirondack Mountains on Mirror Lake, near the southern end of Lake Placid. It was founded in 1850 and incorporated in 1900. An Olympic Arena built in 1932 was the scene of the Third Winter Olympic Games in 1932. Nearby is Mt. Marcy (5,344 feet), the highest in New York State; and Whiteface Mountain (4,872 feet), accessible by automobile over the Whiteface Mountain Memorial Highway. A few miles from the town is the farm and grave of John Brown of Osawatimie. Pop. (1940) 3,136; (1950) 2,981.

LAKE PROVIDENCE, town, Louisiana, seat of East Carroll Parish; near the Mississippi River; on the Missouri Pacific Railroad; about 60 miles northeast of Monroe. It is a cotton and farm area and was settled about 1812; incorporated in 1876. It was earlier known as Stock Island when it served as a refuge from pirates. Pop. (1940) 3,711; (1950) 4,119.

LAKE SCHOOL OF POETS. The terms "Lake School of Poets" and "Lake Poets" are used in English literature to designate the three poet friends—William Wordsworth, Samuel Taylor Coleridge, and Robert Southey—who were residents of the Lake country of northern England. Wordsworth, the school's acknowledged leader, announced its iconoclastic theories in the revised and enlarged second edition of his *Lyrical Ballads*, called the 1800 edition, though not published before January 1801; but the term "Lake School" seems not to have become current until 16 years later when the brilliant essayist and critic William Hazlitt used it in an invidious sense, his former friendship with the three poets having in the interim changed to hostility.

Reviewing Coleridge's *Biographia Literaria; or Biographical Sketches of My Literary Life and Opinions* in the August 1817 issue of *The Edinburgh Review*, Hazlitt—apropos of Coleridge's "copious discussion of the merits of his friend Mr. Wordsworth's poetry—which we do not think very remarkable either for clearness or candour"—crushingly comments that, "though we shall endeavour to give due weight to Mr. C.'s reasonings when we have occasion to consider any new publication of the Lake school, we must for the present decline any notice of the particular he has here urged to our former judgments on their productions . . ." No doubt it was one of Coleridge's dicta on Wordsworth that gave Hazlitt the idea of the "school." To quote Hazlitt again: "The learned author indeed judiciously observes that Mr. Wordsworth would never have been 'idly and absurdly' considered as 'the founder of a school in poetry,' if he had not, by some strange mistake, announced the fact himself in his preface to the *Lyrical Ballads*."

Apparently the *Edinburgh's* editor Francis Jeffrey, who added a footnote of nearly five-page length consisting in the main of a defense against certain charges made against himself and Hazlitt, liked the "school" notion; for in another brief footnote he mentions "the Pantisocratic or Lake school," thus alluding as well to the project

of a pantisocratic society which in 1794 the 22-year-old Coleridge of Jesus College, Cambridge on a visit to Oxford had hatched with his new-found friend, 20-year-old Robert Southey of Balliol. If that early intimacy of the two young romantics had no consequence of a communist colony in the United States, it did result in Coleridge's first acquaintance with his future wife Sarah Fricker, sister of Southey's fiancée Edith.

That Hazlitt in 1817 regarded the middle-aged Southey both as man and author with no less contempt than he felt for the brother-in-law is suggested by his unflattering characterization of Southey in this most scathing of reviews as "a mere bookworm, shut up in his study, and too attentive to his literary duty to mind what is passing about him. He has no humour. His wit is at once scholastic and vulgar. As to general principles of any sort, we see no trace of any thing like them in any of his writings. He shows the same contempt for abstract reasoning that Mr. Coleridge has for 'history and particular facts.'"

What were the principles of the Lake Poets? To comprehend them one must hark back to the first intimacy of Wordsworth and Coleridge in the summer of 1797 when young Coleridge with his wife and child was living in a cottage at Nether Stowey, learning potato culture and preaching on Sundays at the Unitarian chapels of Bridgewater and Taunton. Having formed an acquaintance with William Wordsworth and his sister Dorothy the previous autumn, Coleridge visited them in June 1797 at Racedown in Dorsetshire where they lived in a house lent to them by a friend. The Wordsworths were deeply interested in poetic experiment, and William read to their visitor a drama in blank verse, *The Borderers*. Coleridge thought it "absolutely wonderful," comparing it to Schiller and Shakespeare. His hosts were equally enthusiastic about their guest's tragedy *Osorio*, written for Drury Lane at Sheridan's request, but destined not to be performed there until 1813. A month later the Wordsworths moved to a house called Alfoxede in West Somerset, not far from Coleridge's cottage.

The poets were now living in such close neighborhood that their friendship had opportunity to ripen. "On these delicious hills, sight of the yellow Bristol Channel," observed Edmund Gosse in *A Short History of Modern English Literature*, "English poetry was begun again during the autumn months of 1797, in endless walks and talks of the three enthusiasts—three, since Dorothy Wordsworth, though wrote not, was a sharer, if not an originator, all these audacities and inspirations."

First fruits of their collaboration was little volume of *Lyrical Ballads, with a few other Poems*, appearing in September 1798. It was published anonymously at Bristol with no title that it represented the work of more than one poet. Actually it included four contributions of Coleridge: *The Rime of the Ancient Mariner*, in *Seven Parts* (title and text were considerably altered in the second edition of 1800); *The Foster-Mother's Tale*; *The Nightingale's Conversation Poem*; and *The Dungeon*. Wordsworth contributed such poems as *Goody Blake and Harry Gill*, *The Thorn*, and *The Idiot Boy*, in which some reviewers conceded merit. Southey alone finding worthy of note the subsequently famous *Lines written a Few Miles*.

Rintern Abbey in which the poet made a statement of his literary creed. It was Wordsworth's primary aim to destroy the artificial conventions of the poets of the day who held to the traditional belief that both subject and diction must be "poetic" in the sense of remoteness from the simple natural things of life. A few days after the publication the Wordsworths and Coleridge left England on a tour of Germany. Mrs. Coleridge, left at home, wrote them cheerfully that "the *Lyrical Ballads* are not liked at all by my," which was indeed only a slight exaggeration.

To the enlarged second edition of 1800 Coleridge added only one poem, *Love*. It is this edition which is memorable for Wordsworth's famous preface of nearly 50 pages—an essay on the poetic art, so finely critical and so beautifully expressed that it does not suffer in comparison with the exquisite prose of a Shelley. Here at last was the creed for the new poets, an affirmation that poetry cannot and must not be divorced from life, that "the passions of men should be incorporated with the beautiful and permanent forms of nature."

At this time Wordsworth, a native of Cumberland and born at Cockermouth on the outskirts of the Lake district, returned to his loved home-country. For the next half century, until his death on April 23, 1850, he lived almost without intermission at Grasmere (1800–1813) and Rydal Mount (1813–1850). Marrying in 1802, he accepted the laureateship after Southey's death in 1843. He and his wife are buried in the churchyard at Grasmere, and nearby is the tomb of Hartley Coleridge, Samuel Taylor's poet son, who lived many years in the Lake country at Keswick, Ambleside and Grasmere. Coleridge himself lived for some time at Keswick and was often a guest of the Wordsworths at Grasmere. Southey lived at Keswick for last forty years of his life. Though poet reate (1813), it must be conceded that he is far from being a poet of the first rank, as he, unquestionably, his fellow-poets of the Lake school. Indeed, Southey would probably be forgotten today were it not for his association with Wordsworth and Coleridge and his prose masterpiece, *The Life of Nelson*, for which he received only £300. Andrew Lang remarks of him sadly, "His long and noble life of industry led in 1843; for some time he had sat in the library which he had made without the power to read his books."

The Lake district was not the discovery of the Lake school. Thomas Gray loved it a generation before and wrote a journal of his tour of the Lakes in 1769 containing many striking descriptions of its romantic scenery. Sir Walter Scott was entranced by that wild border region, the scene of many of his novels and poems. But in the early 19th century the Lake district has become a Mecca for lovers of literature, artists and scholars primarily because of its associations with the immortal poetry of Wordsworth and Coleridge.

Consult Saintsbury, George, *A History of 19th Century Literature* (London 1896); *The Poetical Works of Samuel Taylor Coleridge*, ed. with biog. intro. by J. D. Campbell (London 1907); Gosse, Edmund, *A Short History of Modern Literature* (New York 1905); Lang, Andrew, *History of English Literature from "Beowulf" to "The Waste Land"* (London and New York 1912).

DRAKE DE KAY,

Staff Editor, *Encyclopedia Americana*.

LAKE SUCCESS, village, New York, in Nassau County, about 4 miles northwest of Mineola. It was settled by the English in 1644 who purchased land from the earlier Dutch settlers. During the American Revolution, British troops were quartered here, and later, in 1800, frightened Negro slaves were detained here but freed in 1820. The Sperry Corporation plant, built in 1941, became the temporary home of the United Nations from 1947 until the completion of the Manhattan building late in 1950. The name, Lake Success, was taken from an Algonquian Indian chief, Sacut. Geologically, the lake resulted from the disintegration of a glacier during the Ice Age; it is more than 80 feet in depth, being fed by springs, and has no outlet; a connecting lake is known as Lake Surprise. The town was incorporated in 1927 with the purpose of protecting property owners by zoning and to end the many excursionists. Government is by mayor and a board of trustees. Pop. (1940) 203; (1950) 1,255.

LAKE WALES, city, Florida, in Polk County; altitude 150 feet; 25 miles southeast of Lakeland; on the Seaboard Air Line, and the Atlantic Coast Line railroads. Lake Wales is a winter resort in a lake and citrus fruit region, and is near the Mountain Lake Sanctuary with its Singing Tower, generally called Bok Tower. The city was incorporated in 1917 and has a mayor and council. Pop. (1950) 6,802.

LAKE WORTH, city, Florida, in Palm Beach County; altitude 20 feet; 6 miles south of West Palm Beach; served by the Florida East Coast and the Seaboard Air Line railroads, and a federal highway. Primarily a residential and winter-resort town, it extends along both shores of Lake Worth, and is in a truck-farm, dairy, and poultry area. There are nurseries here and manufactures include salt shakers and fishing tackle. The municipality owns a golf course, Casino (bathhouses), the electric light and water plants, also ice and cold-storage plants. Settled in the 1870's, and laid out in 1912, it was incorporated the following year. Government is by mayor and council. Pop. (1950) 11,714.

LAKEHURST, borough, New Jersey, in Ocean County; on the Central of New Jersey Railroad. Since the town lacks important industrial plants or agricultural products, the primary interest is in the Lakehurst Naval Air Station established there in 1919 as a base for lighter-than-air craft. From here the *Shenandoah*, the first American rigid airship, made its first flight in 1923; the *Graf Zeppelin* began and finished its 21-day around-the-world trip in 1929; and here the *Hindenburg* was destroyed by fire May 6, 1937. Pop. (1940) 827; (1950) 1,492.

LAKELAND, city, Florida, in Polk County; altitude 205 feet; 32 miles east of Tampa; on the Atlantic Coast Line Railroad, on a federal highway, and served by an airport. The city is a popular winter resort, situated in a citrus, strawberry, vegetable, and cattle-raising area, and has pebble phosphate mines. There are numerous lakes, a civic center built around Mirror Lake in the heart of the city, and a library. The Florida Southern College is located here. Lakeland was incorporated in 1885, and has a city manager and commission. Pop. (1950) 30,846.

LAKEMBA, là-kēm'bà, the chief island of an island group by the same name, in the Pacific Ocean, at the southern end of the Lau group of the Fiji Islands. A volcanic island of about 5 miles in breadth, the highest point is Mt. Good-enough. Interior land is poor, but coastal areas are rich. First missionaries settled here in 1835. Lakemba was a meeting place for Fijians and Tongans.

LAKEWOOD, village, New Jersey, township in Ocean County; altitude 80 feet; on the south branch of the Metedeconk River; 59 miles southwest of New York City, and served by the Central of New Jersey Railroad. Lakewood is a famous health and winter resort, situated in a pine forest region. It is built around two attractive lakes, the Manetta, and the Carasaljo, and is especially noted for its dry and stimulating climate. The Georgian Court College for girls, and the Newman School for boys are here. Five miles away is the Lakewood United States Naval Air Station. A considerable portion of the residential part of Lakewood was destroyed by forest fires in April 1941. The government is by a township committee. Pop. (1950) 10,736.

LAKEWOOD, city, Ohio, in Cuyahoga County; altitude 685 feet; on Lake Erie; 5 miles west of Cleveland; served by the New York, Chicago, and Saint Louis Railroad. It was settled in 1808 as East Rockport but renamed in 1889; incorporated in 1911. Government is by mayor and council. Pop. (1950) 67,878.

LAKHIMPUR, lūk'hēm-pōor, town, Republic of India, in the state of Assam some 300 miles northeast of Shillong. It is almost on the Tibetan frontier, near the right bank of the Subansiri, a tributary of the Brahmaputra River. Under the previous British administration it was the headquarters of a fertile district in which there are numerous extensive tea gardens. Coal fields and petroleum deposits in the Makum area of the district of Lakhimpur are being exploited.

LAKI, Mount, volcano, Iceland, more than 100 craters extending southwest of Vatnajökull were created by the eruption of 1783, one of the greatest and most destructive volcanic outbreaks in Icelandic history.

LAKME, lāk'mā, a beautiful tragic opera in an Indian setting, composed by Léo Delibes, libretto by Philippe Gille and Edmund Goudinet based on a poem by the latter, *Le Mariage de Loti*; first produced in Paris on April 14, 1883. Delibes, a contemporary of Richard Wagner, was uninfluenced by the German music of his era as a result of the Franco-Prussian War. The plot, laid in 19th century India, begins with Lakmé, a Hindu maiden, who falls in love with Gerald, an English officer. Her father, Nilakantha, a fanatical Brahmin priest, stabs Gerald, but the girl with the help of a slave conveys the officer to a hut in the forest and nurses him back to health. Gerald is recalled to his sense of duty by a brother officer. Reading the resolve in his face that he means to leave her, Lakmé eats a poisonous flower and dies in his arms.

LAKSHMI, lūk'shmē, in Hinduism, the goddess of beauty and wealth, the wife of Vishnu. She is the female or productive energy of Vishnu,

and hence is in many cases regarded as an expression of the attributes of Vishnu. She is said to have been produced from the ocean of milk when churned by the gods to obtain the beverage of immortality. She was thus born in the full flush of beauty, adorned with a diadem and with gems on her neck and arms, bearing in her hand a lotus. As soon as she was born she betook herself to the bosom of Vishnu, to whom she was ever faithful. According to a later view, that of the worshippers of Vishnu, this god produced three goddesses, Brāhmi, Lakshmi and Chandikā, the first his creative, the second his preserving and the third his destroying energy. See SRI.

LA LAGUNA, lä-lä-gōon'nä, commune, Spain, in Santa Cruz de Tenerife Province. It was the former capital and former seat of the University of San Fernando. Manufactures include tiles, tobacco, brandy, and leather. Pop. (1941 est.) 33,042.

LALANDE, lä-länd', Désiré Alfred, French-English musician: b. Paris, Dec. 5, 1860, d. London, Nov. 8, 1904. A distinguished oboe player, he had studied at the Paris Conservatory. In 1886 he went to England where he played with several famous orchestras, Hallé, Manchester, Scottish, and the Queen's Hall, until his death resulting from pneumonia.

LALANDE, Jean (SAINT JEAN LALANDE), French Jesuit missionary in Canada: d. near Auriesville, New York, 1646. He came to America in 1644 and accompanied Father Isaac Jogues two years later to the Mohawk Indians where both were martyred.

LALANDE, Joseph Jérôme Le Français de, French astronomer: b. Bourg-en-Bresse, Am, July 11, 1732; d. Paris, April 4, 1807. He devoted himself to mathematics and astronomy and was sent by the Academy in 1751 to Berlin to determine the parallax of the moon, while Nicolas Louis de Lacaille went with the same object to the Cape of Good Hope. After having finished his operations at Berlin, he was chosen member of the Academy of Sciences in Paris in the year 1753. Thenceforward no volume of their *Transactions* appeared which did not contain some important communication from him. In 1762 he was appointed professor of astronomy in the Collège de France, where he lectured with great success to the end of his life, and in 1795 was appointed director of the Paris Observatory. His chief works are his *Traité d'astronomie* (1764); and *Bibliographie astronomique* (1803). He wrote all the astronomical articles for the great *Encyclopédie* and contributed to various scientific periodicals, besides editing the *Connaissance des temps*.

LALANDE, Michel Richard de, French organist and composer: b. Paris, Dec. 15, 1657; d. Versailles, June 18, 1726. After becoming a self-taught violinist, bass violist, and harpsichordist, he studied the organ and became organist for three Parisian churches. He was named by Louis XIV as music teacher for the princesses and in 1683 was appointed master of the royal chamber music. He composed many motets and among other works *Ballet de la jeunesse* (1686). *L'Amour fléchi par la Constance* (1697); and *Les Folies de Cardenio* (1721).

LALEMENT, läl-män, **Gabriel**, French Jesuit missionary: b. Paris, 10 Oct. 1610; d. in the Huron country, 17 March 1649. He became a Jesuit in 1630, arrived in Canada in 1646 and in 1648 was sent to the Huron missions under de Brébeuf. He was there about a month when the Iroquois attacked the settlement of Saint Ignatius and later attacked the Saint Louis mission, where they captured de Brébeuf and Lalement. They led the two priests to Saint Ignatius, there tied them to stakes and after horrible torture put them to death. Consult Martin, 'Hurons et Iroquois.'

LALEMENT, Jérôme, French Jesuit missionary in America: b. Paris, 27 April 1593; l. Quebec, 26 Jan. 1673. In 1610 he entered the Jesuit order, then taught in educational institutions of the order, and in 1638-45 was superior of Huron Jesuit mission in New France. In 1645-50 he was superior of all the missions in New France. After a sojourn in France (1650-59), he returned to America to resume his post. Letters and reports by him on the missions for 1639-43, 1646-48 and 1660-64 appear in the great compilation of the 'Jesuit Relations' (1896-1901). Consult also Parkman, 'The Jesuits in North America' (new ed., 1898).

LALIN, la-lên, Spain, town in the province of Pontevedra, located in a mountainous region, 37 miles northeast of Pontevedra. Its industrial life depends largely on the agriculture of the highlands, and it has tanneries and paper mills. Pop. 16,300.

LALITA-VISTARA, lă-lī-tā-vīs'ta-ra, one of the most celebrated works of Buddhistic literature, of unknown origin and antiquity, existing only in a Sanskrit version. It contains a narrative of the life and doctrine of the Buddha Sakyamuni, and is considered by the Buddhists as one of their chief works treating of religious law.

LALLA ROOKH, läl'a rook. This collection of narrative poems on Oriental themes (published 1817) brought Moore £3,000 before Longman, the publisher, ever saw the manuscript, and in popularity justified that price. Its permanent reputation, however, is almost solely that of a curiosity. Moore attempted an Oriental subject upon Byron's suggestion, and following Byron centred the interest of his narrative in love and freedom, but had, like Southey, to rely upon books, referred to in learned-looking notes, for his Eastern color. His framework story of an Indian princess traveling to meet the prince, her betrothed, and entertained along the way by the prince himself in disguise telling stories, has charm, but the stories themselves are strained in feeling, over-decorated, diffuse. The best of them, 'The Veiled Prophet,' approaches Byron's picturesqueness; 'Paradise and the Peri' has the lyric sweetness of Moore's own 'Melodies.' The references to the cause of Irish freedom are unconvincing and irrelevant. Of romantic over-sentimentality, with due observance of propriety, 'Lalla Rookh' contained an abundance sufficient to win the favor of a generation that liked the sentimentality in Scott and Byron; of real passion it contained about as much as a wedding-cake. One is now chiefly interested in the rallery of the prose passages making fun of contemporary critics. The best

judges of Moore's own day did not overrate the merit of his performance, and Hazlitt, who said that the author had mistaken the art of poetry for that of cosmetics, assessed its faults justly if with characteristic emphasis.

WILLIAM HALLER.

LALLEMAND, la'l-män', **Charles François Antoine**, BARON, French general: b. Metz, 23 June 1774; d. Paris, 9 March 1839. A volunteer of 1792, he became an aide-de-camp of Junot and gained the grade of colonel by his conduct at Jena. In Spain he was advanced (1811) to brigadier-general and took an important part under Davout (1813-14) at the defense of Hamburg. Given command (1815) by Louis XVIII of the department of the Aisne, he attempted, unsuccessfully, to create a rising in favor of Napoleon, who named him general of a division and peer of France. With Napoleon's surrender and deportation to Saint Helena, he desired to accompany the emperor but was forbidden. After several months internment at Malta, he was released, and after traveling to the East and to Egypt without finding employment, he sailed (1816) for America at the head of a number of other refugees who had been condemned to death by the ordinance of the 24th July. Meeting his brother here, they started to found a colony in the name of Champ d'Asile in Texas but encountered trouble with the Spaniards and he abandoned his plans. He had plans for releasing Napoleon, who left him 100,000 francs in his will (1821), but he is next heard of in Spain offering his services to the Constitutional party; he next went to Brussels and to Paris (in spite of the death sentence) and finally to New York, where he directed an educational establishment. Re-entering France after the revolution of July he was reinvested (1831) with his titles and made a peer of France (1832), commanding successively the 17th and the 10th military divisions.

LALLY-TOLLENDAL, lä-lë-tö-lön-däl, **Thomas Arthur**, COMTE DE: b. Romans, Dauphine, 1702; d. 9 May 1766. He was of Irish parentage, his father having followed the fortunes of James II. Trained to arms, he was made brigadier on the field of Fontenoy for distinguished bravery. He accompanied the Pretender to Scotland in 1745, and in 1756 was selected to restore the French influence in India, for which purpose he was made governor of Pondicherry. He failed in this, surrendered Pondicherry in 1761 and was brought prisoner to England. The following month he was allowed to return to France, where, after a long imprisonment, he was condemned and executed (1766) for treachery, etc. His son (Trophime Gerard, 1751-1830), supported by Voltaire, obtained in 1778 a complete authoritative vindication of his father's conduct. Consult Malleson, 'Count Lally' (1865).

LALO, la-lö, **Edouard Victor Antoine**, French composer: b. Lille, 27 Jan. 1823; d. Paris, 22 April 1892. He was a pupil, under Baumann, at the Lille branch of the Paris Conservatory, becoming first known at Paris as the violinist in Armingaud's chamber-music soirées, soon issuing his own chamber-music pieces. His opera 'Fiesco' (1867) was never presented but the ball-music was played in concerts (1872). His first full success arrived with

his grand opera play, 'Le roi d'Ys' (1876), his third opera, 'La Jacquerie,' was not finished till (1896) brought to completion by Coquard. His grand ballet, 'Namouna,' was included in the grand opera (1882), then in concerts, and his pantomime, 'Nero,' was played in 1891. As composer of instrumental pieces he was more fortunate, showing warmth and talent. He wrote three violin-concertos: the first dedicated to Sarasate, the second, 'Symphonie espagnole,' and the third, 'Concerto russe'; also a cello-concerto, piano-concerto, a 'Rhapsodie norvégienne' for the orchestra, a symphony, etc.

LAMA, genus *Camelida* including all the South American camel family represented by the species vicuña, guanaco, llama and alpaca. The two former are wild and the others domesticated races. O. Thomas decided the relationship of the domestic to the wild races as being derived from the wild guanaco. They are all smaller in size and build than the camels and have no hump on their backs. Their pointed ears are relatively longer than the camels, their tails a mere stump, toes separated each with its pad. There is a tooth less than the camels on each side of the upper jaw. They live in western and southern regions of South America in temperate climate, as the higher ranges of the Andes and Cordilleras, in Patagonia, Tierra-del-Fuego, etc. See LLAMA; ALPACA; VICUÑA.

LAMAISM, lä'ma-iz'm, the name usually given in the Occident to the form of Buddhism which is the prevailing religion in Tibet and in parts of central Asia. The word is derived from the Tibetan *Lama*, "Superior One," a term properly applied to the higher clergy, though often given by courtesy to all fully ordained monks. Buddhism was first introduced into Tibet in the 7th century A.D., during the reign of King Srong-tsan Gam-po, who married two Buddhist princesses, the one from Nepal and the other from China; but the religion made little headway until King Thi-srong De-tsan about 750 A.D. caused it to be preached throughout his dominions by an Indian teacher named Padmasambhava. This remarkable man, who is famous in Tibet for his supposed magical powers, succeeded in converting most of the people from their former religion, an animistic belief known as "Bon," but only by incorporating much of its demonolatry into the already corrupt form of Buddhism that he taught. At this time the order of monks, or Lamas, was established, monasteries were built, and the translation of the sacred books from Sanskrit into Tibetan was actively carried on. After an ineffectual persecution by King Lang Darma in the 9th century, which led to the ruin of the reigning dynasty, Buddhism soon regained its sway and the authority of the monastic order increased. In the 11th century Atisha, a monk from India, tried to reform some of the abuses then prevalent and to spread a purer theology, an effort which gave rise to the sectarian divisions of Lamaism. The Sa-kya sect was especially favored by Kublai Khan, the Mongol emperor of China in the 13th century, who recognized its Grand Lama's spiritual and temporal supremacy over Tibet. Another reformer arose in the person of Tsong-kha-pa (1355-1417), who revived the strict monastic discipline and founded the Ge-

lug-pa or "Virtuous Method" sect, often known as the "Yellow-hat" sect, from the color of its headdress, that of the other sects being red. Its third Grand Lama converted the inhabitants of Mongolia, and received from one of their chieftains the title of Dalai ("ocean-wide" or "all-embracing") Lama, by which his successors have generally been known to Europeans. The fifth Grand Lama of the Ge-lug-pa, named Ngag-wang Lo-zang Gya-ts'o, gained the temporal power over Tibet with Mongol aid about 1640, and began the building of the great palace-monastery of Potala near Lhasa, the capital. In the following century the Chinese government asserted its suzerainty over Tibet, and it has since then kept the Dalai Lamas subject to its political control, without, however, diminishing their ecclesiastical prestige in Tibet and Mongolia. At the present day Lamaists are also found in Manchuria, among the Buriat tribes in Siberia, the Kirghiz, and the Kalmuks on the Volga. In the south the inhabitants of the Himalayan districts of Ladakh and Bhutan and, in part, of Sikkim and Nepal belong to one or another of the Lamaist sects. The total number of the adherents of the religion is perhaps 10,000,000.

Beliefs.—The Buddhism which Padmasambhava brought to Tibet was that of the Mahāyāna school (see MAHAYANA), to which the mystical rites and theories of the Tantra (qv) had already been added. The doctrinal peculiarities of Lamaism are to be found mainly in its luxuriant mythology and demonology, derived partly from Hindu and partly from Tibetan sources. Beside and indeed outranking the historic Gautama or Sakyamuni are the figures of the divine "meditative" Buddhas (usually five) with their active celestial emanations, called Bodhisattvas, and their appearances on earth as human Buddhas in the present world cycle, Gautama himself being the most recent of these. A "primordial Buddha," or first cause, is also recognized. Especial reverence is accorded to the Bodhisattva Avalokiteśvara, "the all-seeing, merciful Lord," who is the offspring of Amitābha Buddha and the heavenly counterpart of Gautama, to Manjuśrī, the god of wisdom, and to the fierce Vairapāni. There are corresponding female Bodhisattvas or goddesses, of whom Tārā in her various forms is most worshipped. The foregoing deities, together with others, mostly of fiendish aspect, serve as "tutelaries," and both the various sects and each individual Lama have their respective patrons. Another highly revered class of demons is that of the "Defenders of the Faith," and there are many inferior spirits, friendly or malignant. Famous religious teachers, both Indian and Tibetan, have been canonized and are worshipped as incarnations of the deities.

Hierarchy.—The monastic order, which though an essential part of Buddhism, was loosely organized in earlier times, has become in Lamaism a highly developed system controlling the entire religious life of the community. The monks or Lamas are very numerous, and usually live together in monasteries although some are hermits and others are found in the villages of the laity. The rule of celibacy is strictly observed only by the Yellow-hat sect. Communities of nuns also exist, though they are few and less highly regarded.

order has four regular grades, probationer, novice, fully ordained monk and abbot; but above these stand the "reincarnate" Lamas, who are supposed to be the earthly manifestations of deities or of deceased saints. The Dalai Lama himself is regarded as the incarnation of Avalokiteśvara, his scarcely less revered colleague, the head of the monastery of Tashi-lhunpo, known as the Pan-ch'en Lama, as that of Amitābha, and the other chief Lamas of Tibet, Mongolia and elsewhere, over a hundred in number, claim similar origins. The mode of succession to these dignities, as practised for the last 500 years, is a peculiar one. The spirit of the deceased Lama is supposed to become reincarnate after a few weeks or sometimes a longer interval in an infant of marvelous birth and character. Search is made for children possessing such qualifications, and after preliminary tests the names are drawn by lot, under the supervision of other chief Lamas, and the new Lama is thus found. Sometimes, especially in Mongolia, the succession is restricted to members of particular tribes or even families.

Ritual.—The Lamaist system is highly sacerdotal, and the ceremonies of worship are carried on by the monks, who have in their monasteries temples richly adorned and containing many images. The analogy between the rites of Lamaism and those of the Roman Catholic Church has often been noticed, but Christian influence, though possible, has not been definitely proved, since Lamaist ritual may well be a natural development from the tenets of Mahāyāna Buddhism. Public worship consists usually of prayers, hymns and the presentation of cakes, rice, water and other offerings to the Buddhas and the other gods. Sacred sentences, the best known of which is the *om mani padme hūm*, or "Jewel-lotus" formula, are repeated in private devotion with the aid of a rosary or, when printed on paper together with mystic diagrams, are inserted in the well-known praying wheels or used as flags. Sorcery and magic are in high repute, even among the members of the reformed Yellow-hat sect, who possess an official oracle, and astrologers are often consulted. There are many religious festivals, the greatest being the feast of the conception of Gautama Buddha in the first month (February), the commemoration of his death in the fourth month, the water festival in the autumn and the festival of Saint Tsongkha-pa in the 10th month. A great mystery-play is enacted toward the close of the year.

General Influence.—While Lamaism in its distinctive features and as it is found in ordinary practice presents itself to the Occidental mind as a form of polytheistic superstition in which the propitiation of fiendish powers is a chief element, the ethical side of early Buddhism and its teachings have an ameliorating influence upon the more enlightened among the people, especially the clergy.

Literature.—The sacred books of Lamaism are the Canon proper, called the 'Kah-gyur' or 'Kanjur,' which is divided into 100 or sometimes 108 bulky volumes, and the Commentaries, the 'Tan-gyur' or 'Tanjur,' containing 225 volumes. The former consists mainly of translations from the Sanskrit of the scriptures of the Mahāyāna school, and of works on the Tantra system, together with a

few translations from the Pāli and the Chinese; the latter form a huge collection of theological, exegetical and scientific works partly of Indian and partly of Tibetan origin. Consult analysis of the 'Kanjur' made by Csoma Körösi, as translated and augmented by L. Feer in *Annales du Musée Guimet* (Vol. II, pp. 131-573, 1881); Ellam, J. E., 'Religion of Tibet' (1927); Grünwedel, A., 'Mythologie des Buddhismus in Tibet und der Mongolei' (1900); Köppen, C. F., 'Die lamaische Hierarchie und Kirche' (1859); Schlagintweit, E., 'Buddhism in Tibet' (1863); Schuleman, G., 'Die Geschichte der Dalailamas' (1911); Waddell, L. A., 'The Buddhism of Tibet' (1895).

CHARLES J. OGDEN.

LAMAMIAO, China, a town in southeast Mongolia known to natives as Dolonnor. It is in the jurisdiction of the province Tchili and is located on the western slopes of the Chingan Range at an altitude of about 4,000 feet. It has an earthen wall, narrow, unclean streets and two large monasteries. Its inhabitants number about 30,000 and it is a large commercial emporium trading with eastern Mongolia, Chinese bartering tobacco, saddles, tents, jewelry and arms against cattle, horses and sheep. It is noted for its skilled workers in clocks, bronze and cast iron idols, bells and vases, known all over China.

LAMANSKY, Vladimir Ivanovitch, Russian philologist and historian: b. Saint Petersburg, 1833. He was professor of Slavic languages at the Saint Petersburg University from 1865 to 1890, and belongs to the most enthusiastic and, at the same time, most learned representatives of the Slavophile movement in Russia. He wrote 'The Slavs in Asia Minor, Africa and Spain' (1859); 'Serbia and the Southern Slav Provinces of Austria' (1864); 'Historical Study of the Greco-Slavic World' (Saint Petersburg 1871), in which he advanced his theory of the contrast between the Greco-Slavic and the Romano-Germanic world. He wrote works also on the language and literature of the Bulgarians (1869); the literary monuments of the ancient Czechs (1879). In 1884 and later he issued 'Secrets d'État de Venise,' concerning 15th and 16th century documents in the archives of Venice, and (1892) the work 'The Three Worlds of the Asiatic-European Continent.' From 1890 editor of the ethnographic periodical *Zivaja Starina*. Deceased.

LAMAR, lā-mār', or **LAMAR Y CORTEZAR**, lā-mār' ē kōr-tā-thār', José, Spanish-American general: b. Cuenca, Ecuador, 1778; d. San José, Costa Rica, 11 Oct. 1830. He went to Spain in his youth, and entering the army there fought against the French at Saragossa. He was ordered to Peru in 1815, and was governor of Callao Castle at the time of its surrender, 21 Sept. 1821. He then joined the revolutionists and in 1824 became marshal. He was elected President of Peru in 1827; caused the deposition of Sucre, President of Bolivia; provoked a war with Colombia, in which he was defeated, and on 29 June 1829 was deposed by his own officers and exiled.

LAMAR, lā-mār, Lucius Quintus Cincinnatus, American jurist: b. Eatonton, Putnam County, Ga., 1 Sept. 1825; d. Macon, Ga., 23 Jan. 1893. He was graduated from Emory Col-

lege (Oxford, Ga.), studied law at Macon, was admitted to the bar in 1847, removed in 1849 to Oxford, Miss., was there professor of mathematics in the University of Mississippi (1850-1852), in 1852-1855 practiced at Covington, Ga., was elected to the Georgia legislature in 1853, and having returned in 1855 to Mississippi, was there elected representative in Congress in 1857 and 1859. In 1860 he resigned his seat in Congress; drafted Mississippi's ordinance of secession; and was a member of the State convention that passed it (Jan. 9, 1861). Chosen lieutenant colonel of the first Confederate regiment organized in Mississippi, serving with his regiment at Yorktown and Williamsburg, he resigned from military service in October 1862, and in 1863-1864 was in Europe, whither he had gone as commissioner to Russia, though he did not proceed to his post. From December 1864, until the close of the war, he was judge advocate of the military court of the 3d Army Corps with the rank of colonel.

After the war he held the chairs of ethics and metaphysics (1866-1867) and of law (1867-1870) in the University of Mississippi; he resigned when the Republicans secured control of the university upon the readmission of the state into the Union.

He was a representative in Congress (1873-1877) and a United States senator (1877-1885); and secretary of the interior in President Cleveland's cabinet (1885-1888). From 1888 he was an associate justice of the United States Supreme Court.

LAMAR, là-mär', **Mirabeau Buonaparte**, American politician, second president of the republic of Texas: b. Louisville, Ga., Aug. 16, 1798; d. Richmond, Tex., Dec. 19, 1859. After being employed a number of years in mercantile business and farming, he established in 1828 the *Columbus Inquirer*, a journal devoted to the defense of State rights, and was actively engaged in politics until his removal in 1835 to Texas. Arriving there at the outbreak of the revolution, he at once sided with the party in favor of independence, and participated in the Battle of San Jacinto, to the successful issue of which the charge of the cavalry under his command greatly contributed. He was soon after called into the cabinet as attorney general, a position which he subsequently exchanged for that of secretary of war. In 1836 he was elected the first vice-president of Texas, having for some months previous held the rank of major general in the army. In 1838 he was elected president, in which office he remained until 1841.

During his term of office Texas was formally recognized as an independent republic by the principal powers of Europe. He founded the educational system, advocating the grant of three leagues of land to each county for the maintenance of an academy and 50 leagues for two universities. Upon the breaking out of war between Mexico and the United States in 1846, he joined General Taylor at Matamoras, and fought at the Battle of Monterey. He subsequently stationed himself with an armed force at Laredo, where for two years he was engaged in constant conflicts with the Comanches, whose depredations on the frontier he greatly curtailed. He was appointed United States minister to Argentina in 1857, but did not go to his post. The last position which he held was that of

United States minister to Nicaragua and Costa Rica. He published *Verse Memorials* (1857).

LAMAR, city, Colorado, in Prowers County, on the Arkansas River, 120 miles east of Pueblo; altitude 3,615 above sea level. It is served by the main line of the Atchison, Topeka and Santa Fe Railroad.

Lamar is the trading center of a productive agricultural and livestock area which includes southeastern Colorado, western Kansas, and northwestern Oklahoma. Agricultural products include corn, wheat, barley, oats, sorghum, and safflower. The city has a large flour mill and a large alfalfa dehydrating and milling plant.

The government is the mayor-city-council type. Pop. (1950) 6,829.

LAMAR, city, Missouri, and Barton County seat; altitude 980 feet; 40 miles northeast of Joplin on the Missouri Pacific and St. Louis San Francisco railroads.

It is a fertile agricultural region and has important trade in wheat, corn, and poultry products. Its manufactures include power lawnmowers, brooms, and wire products. It is one of the largest prairie hay markets in the United States.

First settled in 1856, the city was named for Mirabeau B. Lamar (q.v.), president of the Texas Republic (1838-1841). Lamar is the birthplace of Harry S. Truman, 32nd president of the United States. Pop. (1950) 3,233.

LAMARCK, là-märk', **CHEVALIER DE** (JEAN BAPTISTE PIERRE ANTOINE DE MONET), French scientist, a pre-Darwinian evolutionist: b. Bazentin, Picardy, Aug. 1, 1744; d. Paris, Dec. 18, 1829. He was of noble family, entered the army in 1760, but was compelled on account of an accident to abandon active military service, after which he devoted his attention to study, first to medicine; afterward, after hearing Antoine de Jussieu's illustrations of botany, he turned to the study of that science. Jussieu had intimated that the old method of classification in botany was defective and Lamarck determined to remedy the deficiency. He labored with great diligence on a treatise in which he showed the defects of the old classification, and proposed a new one which met with general approval. He then applied his new system to the plants of France, and delivered to the French Academy his *Flore Française*, which brought him celebrity and secured his admission to the Academy of Sciences. This work was printed on the recommendation of the Academy, at the expense of the government, for the benefit of the author (1780).

Lamarck now turned his whole attention to botanical research, and made several excursions to Auvergne, and into Germany, in the last of which he was accompanied by the son of Buffon. On his return to Paris he undertook the botanical department of the encyclopaedia which Panckoucke was publishing, and applied himself to this task with such assiduity that, in 1783, he produced the first half of the first volume, with an introduction containing a sketch of the history of the science. He published the second volume in 1788. But a dispute between him and the publisher brought the undertaking to a stand, and ended Lamarck's botanical career. At the breaking out of the Revolution

He was the second professor of the royal Jardins Plantes, but in consequence of new arrangements he received a chair in the department of zoology, in which he was soon as much distinguished as he had been in botany. In his writings he shows himself a real forerunner of Darwin. Lamarck's comprehensive mind was also directed toward physics, on which he published several works. He published also a report annually on meteorology and weather predictions. His 'Hydrogéologie' was published in 1802.

Lamarck is the founder of invertebrate paleontology. The most permanently important work of his is 'Philosophie Zoologique' (1809), although at the time it was published it excited little attention. He was doubtless familiar with Erasmus Darwin's 'Loves of the Plants,' which in spite of its many absurdities contained some premonitions of the great discoveries to be made by the author's greater grandson, Charles Darwin. The essence of Lamarck's theory may be stated in the following propositions: (1) Every considerable and sustained change in the conditions of life produces a real change in the needs of the animals involved; (2) change of needs involves new habits; (3) altered function evokes change of structure, for parts formerly less used become with increased exercise more highly developed, other organs in default of use deteriorate and finally disappear, while new parts gradually arise in the organism by its own efforts from within (*efforts de son sentiment intérieur*); (4) gains or losses due to use or disuse are transmitted from parents to offspring. The main point is of course contained in the last proposition, which is controverted by Darwin and Weismann and their adherents in England and Germany. There is, however, a Lamarckian school of considerable influence in Paris, and the Neo-Lamarckians of the United States, including Cope, Hyatt and Packard, have much to support their "laws of growth" as involving the inherited effects of use, disuse and new environments. See DARWIN; EVOLUTION; HEREDITY.

Consult Butler, 'Evolution, New and Old' (1879); Claus, 'Lamarck als Begründer der Descendenztheorie' (1888); Cox, 'The Founder of the Evolution Theory' (in 'New York Academy of Science Annals,' Vol. XIX, 1910); Haeckel, 'Die Naturanschauung von Darwin, Goethe und Lamarck' (1882); Martins, 'Un Naturaliste philosophe' (Paris 1873).

LAMARCKISM, la-mär'kizm. The theory of organic evolution which, in brief, accounts for the origin of life-forms by change of environment, the exercise or use, and the disuse of organs, and the transmission of characteristics acquired during the lifetime of the individual. It differs from Darwinism in lacking the principle of natural selection.

History of the Rise of the Theory.—Lamarck, in 1801, after 25 years' experience as a botanist, and when as a systematic zoologist he had devoted 10 years of labor in classifying the invertebrate animals of the Paris Museum, then the most extensive zoological collection in the world, published a lecture, delivered in 1800, in which he claimed that time without limit and favorable conditions of life are the two principal means or factors in the production of plants and animals. Under the head of favorable conditions he enumerates variations

in climate, temperature, change of habits, variation in means of living, of preservation of life, of means of defense, and varying modes of reproduction. As the result of the action of these different agencies or factors, the faculties of animals, developed and strengthened by use, become diversified by the new habits so that by slow degrees the new structures and organs thus arising become preserved and transmitted by heredity. Although Lamarck did not discover the principle of natural selection, he recognized the fact of competition, of a struggle for existence, but did not dwell on them to the extent that Darwin and later observers did. In 1802, 1803 and 1806 he reiterated and somewhat extended these views, which were published in final form in 1809, in his 'Philosophie Zoologique,' and again, in 1815, in the introduction to his 'Animaux sans Vertèbres.' By this time Lamarck had become the greatest zoologist of the period between Linné and Cuvier. He was expert in detecting the limits between species, and has given us the best definition extant of a species.

Lamarck's Factors of Organic Evolution.—These in their essential form are contained in his famous two laws:

First Law.—In every animal which has not exceeded the term of its development, the more frequent and sustained use of any organ gradually strengthens this organ, develops and enlarges it, and gives it a strength proportioned to the length of time of such use; while the constant lack of use of such an organ imperceptibly weakens it, causes it to become reduced, progressively diminishes its faculties and ends in its disappearance.

Second Law.—Everything which nature has caused individuals to acquire or lose by the influence of the circumstances to which their race may be for a long time exposed, and consequently by the influence of the predominant use of such an organ, or by that of the constant lack of use of such part, it preserves by heredity (*génération*) and passes on to the new individuals which descend from it, provided that the changes thus acquired are common to both sexes, or to those which have given origin to these new individuals.

Lamarck also insisted that animals are modified in accordance with the diversity of their surroundings; that local causes, such as differences in soil, climate, etc., give rise to variations and that the whole surface of the earth affords a diversity in localities and habits, one region differing from another, that though the environment remains the same for a long time and species remain constant for that period, yet there is a slow gradual change, and species are modified in adaptation to such changes. Moreover such changes induce alterations in the wants or needs of animals: this necessitates other movements or actions to satisfy the new needs, and hence they give origin to new habits, and this leads to the use or exercise of some organ or organs in a new direction, with the result that different parts or organs are modified in adaptation to the new surroundings and necessities of existence. All this is perfectly true. We now know that by geographical changes or from lack of food animals are compelled to migrate into new regions, and are there obliged to adopt new habits and become transformed into new species or types. Thus

whales have descended from terrestrial forms; the baleen whale has in its embryo stage rudimentary teeth showing that it is a descendant of toothed whales. Lamarck refers to Geoffroy's discovery in embryo birds of the groove where teeth should be situated, and subsequently fossil birds with teeth were unearthed. The mole with its functionless eyes, due to underground life, the blind *Proteus* of Austrian caves, the headless and eyeless bivalve mollusks, these parts lost by disuse; the evolution by atrophy of the limbs of the snake, due to their lack of use in passing through narrow places; wingless insects whose wings have been lost by disuse; the webs between the toes of ducks, geese, as well as those in the feet of the frogs, sea turtles, otter and beaver, are mentioned by Lamarck as examples of the effect of use and exercise. Other examples of use results are the origin of horns in ruminants; the long neck of the giraffe, which by the absence of herbage was obliged to browse on the foliage of trees "and to make continual effort to reach it," the shapes of the carnivores, of the kangaroo and of the sloth which are accounted for by the necessity of their adopting new habits, and, by exercise in new directions, becoming adapted to the new conditions of life. Although Lamarck gave few illustrations, it may be doubted whether any one has since his day more satisfactorily explained the origin of such forms or modifications. Lamarck also accounts for the origin of man, suggesting in a tentative way his rise from an arboreal or ape-like creature, with a detailed hypothesis of the gradual process of his transformation, into a being with an upright posture, an enlarged brain, powers of reason and other human qualities. But besides these special cases Lamarck was broad and comprehensive in his views of nature and creation. He was the first to show that the animal series was not a continuous chain of being, but rather should be compared to a tree, with its branches. In fact he was the first to construct a genealogical tree, the first attempt at a phylogeny of the animal world. He demanded unlimited time for the process of evolution. He anticipated the uniformitarian views of Lyell. He pointed out that where, as in Egypt, the climatic conditions have remained the same for many centuries, species have remained constant, but that under a varying environment they become modified. He writes of the struggle for existence; shows that the stronger devour the weaker; he refers to the principle of competition in the case of the sloth. He repeatedly insists on the fact that vestigial structures are the remains of organs which were actively used by the ancestors of existing forms. He shows, what is much insisted on at the present day, that change of functions in organs leads to their transformation or recreation, and that the assumption of new habits precede the origin of new, or the modification of organs already formed. A great deal is now said of the effects of migration and consequent geographical isolation in the origination of new species; Lamarck invoked this factor in the case of man, and he also pointed out the swamping effects of intercrossing. Lamarck's theory of use-inheritance is denied by some, but by others is regarded as an important factor in evolu-

tion. He does not, however, refer to the inheritance of mutilations, etc.

All these views lie at the foundation of the theory of organic evolution; yet Lamarck's opinions were set aside, misunderstood and ridiculed. Some crude and ungrounded hypotheses were mingled with them. In his time the sciences of palæontology, embryology and bionomics were undeveloped. Lamarck collected but few facts, and he lacked the experimental skill of Darwin; so that it was reserved for the latter naturalist, half a century later, to convert the world to a belief in evolution. At present, however, it is acknowledged that Lamarckism affords the fundamental principles on which rests the theory of organic evolution, and many of the most eminent naturalists have worked and are working along Lamarckian lines.

Bibliography.—Packard, 'Lamarck, the Founder of Evolution; His Life and Work, with Translations of his Writings on Organic Evolution' (New York 1901); H. Elliot's translation of the 'Philosophie Zoologique' (New York 1914); Spencer, H., 'Factors of Organic Evolution' (New York 1895); Cope, 'The Primary Factors of Organic Evolution' (Chicago 1896); Hutton, 'Darwinism and Lamarckism. Old and New' (London 1909).

ALPHEUS S. PACKARD,

Late Professor of Zoology, Brown University

LAMARTINE, la'mär'tên, Alphonse Marie Louis de Prat de, French poet and statesman. b. Mâcon, Burgundy, 21 Oct. 1790; d. 28 Feb. 1869. He came of well-to-do parents of royalist sympathies. His father was imprisoned during the Terror. He was educated first by his mother, then, after a brief period at Lyons, by the Pères de la Foi at Berry (1805-09). He then passed two years at home, reading poetry and romance, and was in Italy from 1811 to 1813. At the Restoration he entered the Gardes du Corps. The Hundred Days of Napoleon's return he passed in Switzerland and Aix-en-Savoie. Here a love affair with a girl who died soon after opened a copious poetic vein. After Waterloo he returned to France, revisited Switzerland, Savoy and Italy in 1818-19, and in 1820 published his first book, the much admired 'Méditations.' Soon after he left the army for the diplomatic service, was made secretary of the embassy at Naples and married a congenial, wealthy and beautiful English lady, Marianne Birch. 'Nouvelles Méditations' followed in 1824, with a transfer to Florence and the Cross of the Legion of Honor from Charles X in return for a laudatory poem. In 1829 came 'Les Harmonies,' with a mission to Saxe-Coburg and election to the Academy. The Revolution of 1830 terminated his diplomatic career. He entered politics, was defeated in the elections of 1832, made a journey to Palestine, of which he told in 'Voyage en Orient' (1835), was chosen deputy in his absence, and soon gained reputation as a ready speaker and effective orator, becoming steadily more democratic in his political sympathies. 'Jocelyn' (1836), 'La Chute d'un Ange' (1838), two fragments of a would-be epic of the human soul, and 'Recueils' (1839) contain his last significant poetry. The 'Histoire des Girondins' (1847) was less a history than a vaguely

declamatory invitation to the revolution of February 1848, in which Lamartine had a prominent part, being Minister of Foreign Affairs in the provisional government, a member of the Constituent Assembly by concurrent election in 10 departments, and one of its executive committee. His own inexperience and impatience of routine, joined to the futility of his colleagues and the unreason of the mob, led to the conspicuous failure of his efforts to govern by speeches and reconcile the middle class to democracy. In June he yielded to Cavaignac and got but few votes when nominated for the presidency in 1849. His political day was over. He was not even elected to the Assembly. Grown poor in the public service he tried to redeem his fortunes by much writing: 'Confidences' (1849), 'Raphael' (1849), both autobiographical, 'Nouvelles Confidences' (1851), histories of the French Revolution and the Restoration, biographical sketches of Columbus, Jeanne d'Arc, Oliver Cromwell and others, and stories in prose, of which 'Graziella' and 'The Stone Mason of Saint Point' are best known. He edited his own complete works in 41 volumes, 1858-63. A pension, tardy recognition of his sacrifices and his deeds was accorded him in 1867. Amiable, vain, fond of pose, picturesquely sentimental, fatally fluent alike with tongue and pen, with "a habit of inaccuracy" and rhetorical embellishment, without well-grounded political convictions, Lamartine's best titles to remembrance are the poems of his early years. (See MEDITATIONS.) Consult Brunetière, 'Evolution de la Poésie lyrique' (Vol. I, 107 ff.); Sainte-Beuve, 'Portraits contemporains' (Vol. I, 190 ff.); Deschanel, 'Lamartine' (Paris 1893); Doumic, R., 'Lettres d'Elvire à Lamartine' (ib. 1895); Séché, L., 'Etudes d'histoire romantique: Lamartine de 1816 à 1830' (ib. 1906) and 'Les amitiés de Lamartine' (ib. 1911); Lacretelle, P. de, 'Les origines et la jeunesse de Lamartine' (ib. 1911); Clouzet, G., 'Lamartine' (ib. 1912); Sachs, E., 'Les idées sociales de Lamartine' (ib. 1915). There are translations of the 'Girondists,' 'The French Revolution' and 'Restoration,' of 'Graziella' and the 'Stone Mason of Saint Point,' and of 'Raphael.' There are school editions of 'Columbus,' 'Jeanne d'Arc' and 'Cromwell' and of excerpts from the 'French Revolution.'

BENJAMIN W. WELLS,

Author of 'Modern French Literature.'

LAMB, Charles, English poet, critic and essayist: b. The Temple, London, 10 Feb. 1775; d. Edmonton, England, 27 Dec. 1834. Lamb was the youngest of three surviving children, among seven, of John Lamb, a clerk in the Inner Temple, and Elizabeth [Field] Lamb. Both parents were of humble and rural origin. Charles passed the first seven years of his life in the Temple, where he received some instruction, and in 1782 went to Christ's Hospital, where he remained the next seven years. Here he met his life-long friend and counsellor, S. T. Coleridge (q.v.). Lamb was known as a gentle and amiable boy, whose natural shyness and sensitiveness were increased by a trick of stammering, of which he never succeeded in completely ridding himself. Aside from these traits, there is to be noted the strain of mania in Lamb's family which in the boy expresses itself as excitability and nervousness. Other

important determinants in Lamb's career were the influence of Coleridge, which tended to develop thoughtfulness and a love of poetry, his own liking for early English authors, particularly the Elizabethans, and his genuine and un-failing delight in the life of the city. Though a fair scholar at school, Lamb was really more of a reader, and his reading had a great effect on his literary career and the quality of his work.

Shortly after leaving Christ's Hospital, Lamb entered the South Sea House. In 1791 he got a clerkship in the East India Company at £70 and there remained, with gradual increase in salary, until he was retired in 1825, on a pension of £441. From the time he entered business to his death, his life was singularly uneventful. The critical year, 1795-96, was marked by his father's falling into imbecility, his own solitary attack of mania, and (September 1796) his sister's stabbing of their mother in a fit of insanity. The nature of the hereditary complaint and his sister's need of a guardian determined his mode of life. He turned his back on an inchoate love affair, put aside all thought of marriage and devoted himself to his sister, as she to him in her sane moments. In 1797, on the death of their father, the two began their long life in London, unbroken except for one short trip to Paris. In the period their local home was changed but six times.

Lamb began his literary career in 1797 by the addition of three sonnets to a volume of Coleridge's. His poetical production was small; altogether during the course of his life his known poems number about 110, of which the best known are 'The Old Familiar Faces,' 'Hester' and 'On an Infant Dying as Soon as Born.' In 1798 he wrote 'Rosamond Gray and Old Blind Margaret,' a prose tale of sentiment. Though praised by Shelley and others for a charm that it undoubtedly possesses, the story, as a composition, is very incoherent and shows the writer's lack of technical skill. Structural defects equally great, because of lack of adequate motive in characterization, abound in Lamb's next attempt, 'John Woodvil,' a very undramatic drama, which was refused by Kemble in 1799 and published by Lamb in 1802. Nor was Lamb's third attempt at imaginative literature more successful: the farce, 'Mr. H.,' ran one night in 1806 and is probably one of the least dramatic pieces ever put on any stage. The truth of the matter is that Lamb had very little constructive ability in narrative and dramatic forms, that his attempts in them were due to the influence of the early dramatists, of whose work he was very fond and whose vogue he did much, later, to restore. His liking for them rested on their poetry rather than their dramatic ability.

In the next kind of work that he took up, Lamb had much better success. These were stories retold and they stand in three chief volumes, 'Mrs. Leicester's School,' 'Tales from Shakspeare' (both of 1807), and 'The Adventures of Ulysses' (1808), in many of which his sister was his coworker. Lamb had here his material made for him and, therefore, his own quality was less trammelled. The 'Tales from Shakspeare,' of which Charles wrote the tragedies and Mary the comedies,

quickly went into a second edition and has since become an English classic of a minor order. The stories are retold with much simplicity and with a very happy emphasis on the characters and the moral of the main situation; less is proportionately given to the under-plots. Next to the 'Essays of Elia' the 'Tales' are Lamb's best-known work.

In 1808 Lamb entered the field of criticism, and for the next decade his published writings indicate that his interests were, broadly, of a critical nature. His chief motive for this change seems to have been his desire to express in the form of comment the admiration for the early writers which he had expressed, by imitation, in his own dramas, and, by transcript, in such works as the 'Tales.' In 1808 appeared his 'Specimens of English Dramatic Poets Contemporary with Shakspeare,' with his valuable notes thereon. Other important essays are 'On the Tragedies of Shakspeare' and 'On the Genius and Character of Hogarth,' both of which appeared in Leigh Hunt's *Reflector* in 1811, an essay on Wordsworth's 'Excursion' in the *Quarterly* in 1814, and 'On the Poetical Works of George Wither' published in the collected works of Lamb, issued in 1818. There are also a few minor pieces of criticism, but the amount of Lamb's critical work is exceedingly small in view of its high reputation, and its form is fragmentary. Its place is probably due to the fact that Lamb did very much to restore to their rightful heritage those old writers from whom he drew much of his own inspiration and to the fact that, in an age of critical dogmatism, Lamb insists constantly, though not always with an eye to logic or historical fact, on broad appreciation.

Lamb's fame rests chiefly on the next important work, or rather kind of work, which he attempted. Having practically failed in creative narrative and drama and having achieved only a moderate contemporaneous success in fields of retold stories and criticism and poetry, he turned his attention to the literary essay and found it a proper vehicle for his peculiar genius. Lamb had from time to time during his earlier life as well as his later written miscellaneous essays of a quaintly humorous quality, like 'The Inconvenience of Being Hanged' (1811) and 'The Melancholy of Tailors' (1814), but the idea of regularly using the essay form did not occur to him until the famous 'Essays of Elia.' These were published as books in two series, in 1823 and in 1833, but they originally appeared in the *London Magazine*. For the first two or three years, from August 1820 to December 1822, they were published almost every month; after that they came out at very irregular intervals until 1833. Of the 51 essays and 16 'Popular Fallacies' in the two series only about 14 are really well known; of these 'Imperfect Sympathies' and 'A Dissertation on Roast Pig' are probably the most famous, though such essays as 'The South Sea House,' 'Mrs. Battle's Opinions on Whist,' 'Dream Children' and 'My Relations' are scarcely less well known and in no wise inferior. The essays have, in the main, come to be regarded as the best examples of the personal essay that English literature possesses. Certainly no English essays more completely reveal the personality of the author or reveal it in more winning terms. They are renowned

for their quaintness, their wit, their sympathy, their humor, their serenity and their reverence.

Between Lamb's retirement in 1825 and his death, his work in literature was of rather a miscellaneous character. A few essays of the Elia type and some miscellaneous pieces of criticism, and a wholly undramatic and unsuccessful drama, 'The Wife's Trial, or, The Intruding Widow,' are about all that he produced after he "came home forever." See *ESSAYS OF ELIA*.

Bibliography.—The best edition of Lamb's works is that by Canon Alfred Ainger, in six volumes. This does not include the 'Specimens,' which are most conveniently to be had in the Bohn Library. A full bibliography of Lamb's writing is to be found in B. E. Martin's 'In the Footprints of Charles Lamb' (New York 1890). Canon Ainger's 'Life,' in the *English Men of Letters*, is the most convenient biography of Lamb; it contains a short but excellent bibliography of the contemporary writers from whom we gain our knowledge of the author. To his list of titles may be added De Quincey's 'Recollections of Charles Lamb.' Of the many essays on the subject, that of Pater, in 'Appreciations,' is probably the nearest to finality.

WILLIAM T. BREWSIER,
Professor of English, Columbia University.

LAMB, Charles Rollinson, American architect and artist: b. New York. He established a high reputation for talented ecclesiastical architecture and decoration in his partnership with his brother Frederick as proprietors of the J. & R. Lamb Corporation. He designed the Dewey Arch erected at Madison Square (1899) for the triumphal procession after the Spanish War, and the Court of Honor erected for the Hudson-Fulton Celebration (1909) was from his designs. He was president of the Art Students' League and of the Municipal Art Society and is trustee for numerous art associations.

LAMB, Daniel Smith, American physician: b. Philadelphia, 20 May 1843. He took his M.D. at Georgetown University in 1867. He volunteered in the United States army in 1861 and was on duty in military hospitals throughout the war. He was acting assistant surgeon at the Army Medical Museum in 1868-92 and from 1892 to 1920 was pathologist there. He was professor of materia medica and then anatomy at Howard University, 1873-1923, and was professor of general pathology at the United States College of Veterinary Surgeons in 1894-1900. He conducted the autopsy on President Garfield. He edited the *Washington Medical Annals*, contributed numerous monographs on medical, sanitary and anthropological subjects and was author of 'History of the Medical Department, Howard University, Washington' (1900). Died, 21 April 1929.

LAMB, Horace, English mathematician: b. Stockport 27 Nov. 1849; d. 4 Dec. 1934. He was educated at Owens College, Manchester, and at Trinity College, Cambridge, where he was fellow and assistant tutor in 1872-75. He was professor of mathematics at the University of Adelaide, Australia, in 1875-85; and from 1885 to 1920 was professor of mathematics at Owens College and the University of Man-

hester. He was elected a Fellow of the Royal Society in 1884, was royal medalist in 1902 and in 1909-10 he served as vice-president of the society. Besides many papers on mathematical physics he is the author of 'Motion of Fluids' (1878); 'Hydrodynamics' (1895; 5th ed., 924); 'Infinitesimal Calculus' (1897; 3d ed., 907); 'Statics' (1912); 'Dynamics' (1914); 'Higher Mechanics' (1920).

LAMB, John, American soldier: b. New York, 1 Jan. 1735; d. there, 31 May 1800. He first worked in New York with the elder Lamb in the trade of optician and mathematical instrument maker, but in 1760 entered the liquor trade. He was one of the "Sons of Liberty" (q.v.) and active in all the early Revolutionary scenes in New York. He supported the resistance of the colonies to the "Stamp Act" and subsequently went to Philadelphia to urge a firm stand against any further oppression. Commissioned captain of artillery in 1775, he was authorized by Congress to remove the cannon from the Battery in New York on 23 August of that year; he subsequently took part in Montgomery's expedition against Quebec, where he was wounded and made prisoner. Later he rose to be colonel and at the time of Benedict Arnold's treason commanded at West Point. After the Revolution he was elected to the State legislature of New York, and for some years previous to his death held the post of customs collector of New York port. Consult the biography by Leake (Albany 1857).

LAMB, Martha Joan Reade Nash, American historian: b. Plainfield, Mass., 13 Aug. 1820; d. New York, 2 Jan. 1893. She was married to Charles A. Lamb in 1852 and removed with him to Chicago, Ill., where in 1863 she was secretary to the United States Sanitary Commission Fair. She made her home in New York from 1866 and was editor of the *Magazine of American History* from 1883 till her death. Her publications include a scholarly 'History of the City of New York' (1877-81); 'The Homes of America' (1879); 'Wall Street in History' (1883); 'The Christmas Owl' (1881); 'Snow and Sunshine' (1882).

LAMB, Mary Ann, a sister of Charles Lamb (q.v.).

LAMB IN ART. In the ancient Christian art of the Catacombs we find the lamb figuring as emblem of the Redeemer as early as the 3d century, though rarely, later to become quite commonly used to represent Christ, and referring to the mention by Saint John the Evangelist and the Jewish Paschal lamb. Some early depictions have an accompanying shepherd's staff, later the Good Shepherd appears. Early in the 4th century we find the symbols of the cross and nimbus, to be followed later by the cross and banner of the Agnus Dei that has continued to this day. Another early representation met with is that of Christ, in the form of a lamb, standing on a mount, from which four streams flow, typifying the four Evangelists. Other pictures give the Savior in human form with a lamb by His side and surrounded by 12 other lambs, symbols of the 12 Apostles. But the primitive Christians used the lamb or sheep as symbol of other Old and New Testament personages; as instances are those where it represents Moses, Saint John

the Baptist, the Apostles. In fact the Apostles are found represented by a lamb constantly in the Catacomb frescoes, ancient sarcophagi and ancient mosaics in Roman basilicas. Again, lambs have been used as symbolic of the 12 tribes of Israel. It is generally conceded in ecclesiastical art that when more than 12 lambs are presented they refer to the faithful. Entire Biblical scenes have been depicted in which the sacred personages performing take on the form of lambs. Illustrations which depict the lamb of the Apocalypse represent the symbol, with seven horns and seven eyes, breaking the seven seals of the mysterious book. It is often seen surrounded by crosses and with the four Evangelists depicted at the extremities; several sepulchral brasses display this combination. Ancient pictures portray the lamb performing numerous acts, such as raising Lazarus from the dead, multiplying the loaves in the wilderness, crossing the Red Sea. It is also found being baptized in the Jordan, standing at the foot of the cross, lying slain upon an altar, shedding blood from its breast into a chalice, blood pouring in four streams from its feet. In such cases the lamb is depicted always as carrying a cross. Early mosaics and frescoes show the lamb lying on a throne surmounted by a cross. The lamb pictured on chasubles and altar frontals is often lying, as if dead, upon the Book with the seven seals, also as holding, while standing, the banner of the Resurrection with the fore foot or the rear foot. In this action it has been accepted as the heraldic insignia of several towns, noble families and societies. Artists in depicting the Agnus Dei have generally accepted the following rules: The lamb's body is white; the head is surrounded with a nimbus of gold containing a red cross; the banner, depending from the traverse of a reclining cross, has a white field, red at the base point and a red cross in centre. The whole is usually enclosed either in a circle or quatrefoil with field *azure* (blue) or *gules* (red). As an attribute in ecclesiastical art the lamb is found accompanying Saint Agnes, Saint Genevieve, Saint Catherine and Saint Regina. Saint John is frequently depicted carrying a lamb or accompanied by the Paschal lamb, and buildings dedicated to this saint often show the lamb as decorative motif. In some pictures and statuary the lamb appears as symbol of the virtues the person represented was noted for, such as Innocence, Meekness, Patience, Purity.

CLEMENT W. COUMBE.

LAMBALLE, lán'bâl', **Marie Thérèse Louise de Savoie-Carignano**, PRINCESSE DE, French-Italian princess, friend of Marie Antoinette: b. Turin, 8 Sept. 1749; d. Paris, 3 Sept. 1792. She was the fourth daughter of Prince Louis Victor of Carignano and in 1767 was married to Prince de Lamballe who died in the following year. Upon the marriage of Marie Antoinette the princess returned to court and was accorded the favor of the royal lady, to whom her gentleness and submissiveness greatly appealed. They became close friends and upon Louis XVI's accession to the throne the queen made her superintendent of the royal household. The Comtesse de Polignac superseded her in 1776-85, when the queen sought a rec-

conciliation and resumed their former intimacy. The salon of the princess was used by the queen as a sort of headquarters for her various intrigues, and as this became known the populace believed the queen's innocent dupe to be the responsible party and hated her accordingly. When, after the Revolution, the royal family, in 1791, attempted to escape the princess made her way to England to appeal for aid for her royal friends. She returned to the Tuileries in November of that year and was permitted to share the queen's imprisonment in the Temple from 10 August until 19 August, when she was removed to La Force. On 3 September she was brought before the tribunal and commanded to take an oath against the king. Upon her refusal she was turned over to the mob, which tore her in pieces and bore her head on a pike before the windows of the queen in the Temple. Selections from her letters were published in Volume XXXIX, 'La Revolution française' (Paris 1900). Consult Bertin, Sir George, 'Madame de Lamballe' (Paris 1888); Lescure, Comte de, 'La Princesse de Lamballe' (1864); Hardy, B. C., 'The Princesse de Lamballe' (1908).

LAMBAYEQUE, läm-bā-yā'kā, Peru, a maritime department lying between the Pacific ocean and the departments of Piuria, Cajamarca and Libertad, having an area of 4,613 square miles. The department was created in 1874. It is settled only along the river valleys where irrigation is possible, and where water is obtainable there is good production of cotton, rice, tobacco and sugar-cane. In the uplands are districts which afford good pasturage. The population of the department, mainly of mixed blood, is estimated at about 140,000. The capital is Chiclayo, a town of 30,000 inhabitants, which is the centre of a rice and sugar district with well laid-out streets and the location of a cathedral and of a national college. Roads run from Chiclayo to Chongayape, Hualgayoc and Chota, and another to Lambayeque, a smaller town which was formerly the capital of the department. Montsefú, famous for hand woven textiles, is several miles distant.

LAMBEAUX, län'bō, Jef (Joseph Marie Thomas), Belgian sculptor: b. Antwerp, 1852; d. 6 June 1908. He studied at the Antwerp Academy of Fine Arts and under Jean Geefs. His first production, 'War,' was exhibited in 1871, but owing to financial difficulties his work for some years was confined to profitable humorous subjects. He then went to Paris to study, and in 1881 executed his masterpiece, 'The Kiss,' which is in the Antwerp Museum. He later studied in Italy where the work of Jean Bologne greatly impressed him, although his style undoubtedly was formed by the Flemish masters. His fountain at Antwerp (1886) is a fine example of his work, and among other famous pieces are 'Robbing the Eagle's Eyrie' (1890); 'The Bitten Faun' (1905), and a colossal marble bas-relief, 'The Human Passions.'

LAMBECK, läm'bēk, or **LAMBECCIUS**, Peter, German scholar: b. Hamburg, 13 April 1628; d. Vienna, 7 April 1680. He studied at Hamburg, Amsterdam, Paris and Rome, was teacher of history in the gymnasium at Hamburg from about 1650 to 1662 when he became rector. In 1662 he was converted to the Roman Catholic faith and went to Vienna, where

in 1665 he was installed as librarian of the Imperial Library. His most valuable works are 'Commentarii de Bibliotheca Cæsarea Vindobonensi' (8 vols., Vienna 1665-69), and the 'Prodromus' of the unfinished 'Historia Literaria' (1710).

LAMBERT, Alexander, American pianist: b. Warsaw, Poland, 1 Nov. 1862. He studied in early life with his father, and on the advice of Rubinstein was sent to the conservatory at Vienna, where he graduated in 1880. In 1881 he gave a series of concerts in New York, which he repeated the next season through Germany and Russia. After studying for a while under Liszt he returned (1884) to the United States, and from 1888 to 1906 was director of the New York College of Music when he resigned in order to devote his entire time to private teaching. He is author of many compositions, but is best known as a successful teacher. He has written 'Systematic Course of Studies' (6 vols., 1892), and 'Piano Method for Beginners' (1907), which is in use extensively in the United States.

LAMBERT, Daniel, English citizen famed for his unusual corpulence: b. Leicester, 13 March 1770; d. 21 July 1809. Up to his 19th year he gave no indications of the remarkable stoutness which he afterward attained, being an enthusiastic lover of field sports and athletic exercises. He succeeded his father as keeper of the Leicester prison, exchanged an active for a sedentary life, and from this time rapidly increased in size till he became an object of public curiosity and attracted visitors from all parts of the country. He now resolved to turn his obesity to account, and in 1806 commenced an exhibition of himself in Piccadilly, London. He afterward exhibited himself in the principal towns of England. At the period of his death he was 5 feet 11 inches in height, weighed 739 pounds and measured 9 feet 4 inches round the body and 3 feet 1 inch round the leg. In diet he was remarkably abstemious, drank water only and never slept more than eight hours.

LAMBERT, Eugène Louis, French painter: b. Paris, 24 Sept. 1825; d. 1900. He studied under Delacroix and Delaroche and made his début at the Salon in 1847. He is famous chiefly as a painter of cats, the remarkable success of his 'Chat et Perroquet' (1857) largely influencing his choice of subjects in later years. He became a member of the Legion of Honor in 1874 and was awarded third medal at the Exposition Universelle in 1878. His work is familiar throughout the United States, and his 'Cat and Kittens' (1870) hangs in the Metropolitan Museum, New York. His 'Family of Cats' (1887) is in the Luxembourg. The charming illustrations for Cherville's 'Chiens et chats' (Paris 1889) are his work.

LAMBERT, Johann Heinrich, vō'hän hīn'rīh läm'bērt, German mathematician and philosopher: b. Mülhausen, in Alsace, 26 Aug. 1728; d. Berlin, 25 Sept. 1777. His father was a tailor in humble circumstances, and he was obliged to follow his father's employment. In this situation he spent the greatest part of the night in study and soon acquired a knowledge of mathematics, philosophy and the Oriental languages. At the early age of 19 he discovered

the so-called "Lambert's theorem." He became tutor to the sons of Salis, President of the Swiss Confederation, accompanying his pupils (1756-59) on a continental tour. In 1759 he was released from his duties, and in 1764 Frederick the Great appointed him to the head of the Architectural Council and made him a member of the Academy of Sciences. He enriched the transactions of various societies with his papers and treatises, all of which bear the stamp of eminent and original genius. Most of his mathematical pieces were collected in three volumes by himself. Philosophy, and especially analytic logic, are greatly indebted to him for his 'Neues Organon, or Thoughts on the Examination and Relations of Truth' (1764), and his 'Architektonik, or Theory of the First Simple Principles in Philosophical and Mathematical Knowledge' (1771).

LAMBERT, John, English soldier: b. Kirkby Malhamdale, Yorkshire, 7 Nov. 1619; d. 1683. He entered the army and had attained the rank of colonel in 1644, when he fought against the king at the battle of Marston Moor. He assisted Ireton in drawing up the "Heads of the Proposals," in 1647; was a brave, chivalrous and able soldier and the idol of the army, holding a place second only to Cromwell, was generous in his treatment of Royalist prisoners and took no part in the measures leading up to the execution of the king. He accompanied Cromwell into Scotland in 1650, specially distinguished himself at Dunbar and Worcester, and took the lead in the council of officers who gave the Protectorate to Cromwell. He subsequently opposed the Protector and was deprived by Cromwell of all his commissions, though a pension of £2,000 was allowed him for past services. When Richard attempted to assume the Protectorate Lambert came forward and became the head of the Fifth Monarchy Men, or extreme Republicans. In August 1659 he suppressed a dangerous Royalist rising at Chester, in the same year was member of Parliament for Pontefract, dismissed the "Rump" Parliament, governing with the aid of Council of Public Safety. In order to detach him from the Commonwealth suggestions were made by Royalists for a marriage between Prince Charles or his brother the Duke of York and his daughter. In 1660 he set out for the north to encounter Monk, but was deserted by his troops, seized and committed to the Tower, whence he soon escaped, again attempted to gather troops and was again arrested. At the Restoration he was excepted from the act of indemnity, brought to trial and condemned in 1662, but his sentence was commuted to banishment to Guernsey, from whence he was removed to Drake's Island, Plymouth Sound.

LAMBERT, John, English traveler: b. about 1775; d. unknown. He visited North America in 1806-09 under the auspices of the Board of Trade, with the object of introducing hemp-raising in Canada in order to render England independent of the hemp of northern Europe, with which supply Napoleon was interfering. This project was unsuccessful, but Lambert remained in America exploring "those parts made glorious by Wolfe and Washington" and studying "the effect of the new government." He published the results of his in-

vestigations a year after his return to England, 'Travels through Lower Canada and the United States of North America, 1806-08' (3 vols., London 1810). The work is written from a liberal standpoint and ran through three editions. He also edited and wrote a preface for the 'Essays' of Washington Irving (2 vols., London 1811), after which time nothing is known of him.

LAMBERT, Louis A., American Roman Catholic clergyman: b. Charleroi, Pa., 13 April 1835; d. 1910. He was educated at Saint Vincent's College, and the archdiocesan seminary, Saint Louis, and was ordained to the priesthood in 1859. He was chaplain in an Illinois regiment during the Civil War, was pastor at Cairo, Ill., 1863-69, and subsequently at Seneca Falls and Waterloo, N. Y.; was professor of normal theology and philosophy at the Paulist Novitiate. He founded the *Catholic Times*, in 1874, and was its editor till 1880, and after 1894 was editor-in-chief of the New York *Freeman's Journal*. He was involved in a controversy with Robert G. Ingersoll, and his side of the controversy was published in a volume. The bishop of Rochester, Dr. McQuaid, refused to assign Dr. Lambert to a parish in his diocese, but was overruled by the Pope. Thereupon Dr. Lambert was made rector at Scottsville, N. Y., where he remained until his death. He published 'Thesaurus Biblicus'; 'Notes on Ingersoll'; 'The Christian Father'; 'Tactics of Infidels,' etc.

LAMBERT VON HERSFELD, German historian: b. probably Thuringia; d. Benedictine monastery at Hersfeld, 1088. He was finely educated, ordained a priest at Aschaffenburg, and is sometimes spoken of as Lambert of Aschaffenburg or Shafnaburg. He entered the Benedictine monastery at Hersfeld in 1058, and made a pilgrimage to the Holy Land, visiting many monasteries of his order. His fame rests upon his 'Annals,' a history of the world from its beginning until 1077. Lambert followed the work of other historians until 1040, when he emerged as an independent historian treating familiar contemporaneous history. The work is written in a beautiful Latin and the style is excellent. The writer is definitely antagonistic to Henry IV, whose visit to Canossa is brilliantly described, as is the battle of Hohenburg; and the work, naturally, is strongly in favor of the papacy. Until recently the fairness and accuracy of the 'Annals' have been unquestioned. The 'Annals' were first published in 1525, in the 'Monumenta Germaniae historica,' (Bänd III and V Hanover and Berlin 1826 fol.), and translated into German by Hesse (Leipzig; 2d ed., 1893). He is credited with the authorship of some of the monastery records, and with 'Carmen de Bello Saxonico,' edited by Pannenberg (Göttingen 1892), and by Holderegger (Hanover 1894). Consult Delbruck, H., 'Über die Glaubwürdigkeit Lambert von Hersfeld' (Bonn 1873), and Potthast, A., in 'Bibliotheca Historica' (Berlin 1896).

LAMBERTON, Benjamin Peffer, American rear-admiral: b. Cumberland County, Pa., 25 Feb. 1844; d. 9 June 1912. He was graduated at the United States Naval Academy in 1864 and was assigned to the United States steamer *America* for service during the remainder of

the Civil War. He was regularly promoted and at the outbreak of the Spanish-American War was chief of staff for Admiral Dewey. After the battle of Manila Bay he was advanced in rank seven numbers for "eminent and conspicuous conduct." He commanded Admiral Dewey's flagship, United States steamer *Olympia*, in 1898-1899, served on the naval retiring board in 1900, and on the lighthouse board in 1900-1903. He was in command of the South Atlantic squadron in 1903-1904 and served at the Naval War College in 1904. He was chairman of the lighthouse board in 1905-1906 and was retired Feb. 25, 1906.

LAMBERTON, John Porter, American editor and author: b. Philadelphia, Oct. 22, 1839; d. July 26, 1917. He was graduated from the University of Pennsylvania in 1858 and received degree of A.M. in 1861. He was teacher of classics in several academies (1859-1880), but was obliged to retire from this field on account of the impairment of his hearing. Entering upon literary work he was associate editor of the *American Supplement* to the Encyclopaedia Britannica (9th ed.), and assisted in preparing the index to that edition of the Britannica. He was for five years (1891-1896) in the editorial department of the J. B. Lippincott Company and revised *Worcester's Dictionary* and other works of reference published by it. He was managing editor and chief writer of *Historic Characters and Famous Events*, 12 vols. (1896-1898) and *Literature of All Ages*, 10 vols. (1898-1899). To the series *Six Thousand Years of the World's History* he contributed *Literature of the 19th Century* (1900). He prepared an educational work on *English Literature* (1903); revised and enlarged *The Drama* of Alfred Bates (1905-1907). In 1902 he became an assistant in the library of the University of Pennsylvania.

LAMBERTVILLE, city, New Jersey, in Hunterdon County; altitude 50 feet; on the Delaware River; and on the Pennsylvania Railroad, 16 miles northwest of Trenton; connected with New Hope, Pa., by bridge. The surrounding region is agricultural. It has manufactures of textiles, furniture, and leather goods. Before the Delaware and Raritan Canal was abandoned, the feeder running through Lambertville was a busy waterway. Before and during the Revolutionary War, Samuel Coryel operated a ferry here, and the settlement was called Coryel's Ferry. The present name came into use after the War of 1812, when John Lambert opened a post office. Lambertville became a city in 1872 and has commission government. Pop. (1950) 4,477.

LAMBERVILLE, lām'bēr-vēl, Jean de, French missionary: d. Paris, Feb. 6, 1714. In 1671, as a member of the Jesuit order and under their direction, he settled in the Iroquois village of Onondaga. He had previously spent three years in Canada, and he now became active in cementing the alliance between the Indians and the French. Meanwhile Governor Thomas Dongan of New York was straining every nerve to win over the Iroquois League to the English, but without success. Lambertville, who was chaplain of the French garrison at Forts Frontenac (Kingston) and Niagara, was obliged to abandon his post by the risk he

ran when the Iroquois delegates were treacherously seized at Fort Frontenac to which they had repaired on receiving pledges of a peaceful conference (1687). In 1691, he was at Saul Saint Louis. He returned to France in 1694, and for the next 20 years was procurator for the Canadian mission.

LAMBESSA, lām-bēs'ā, or **LAMBESI** (ancient LAMBAESIS), commune, Algeria, in the Department of Constantine, seven miles south east of Batna and 17 miles west of Timgad. The town owed its ancient importance to a Roman military camp founded there under Hadrian, 123-129 A.D.

The modern village has an agricultural colony founded in 1848 and a large convict establishment built about 1850. The village is interesting chiefly because of its historical remains. While vandalism has destroyed many of these those still existing are cared for by the Service des Monuments Historiques. There are triumphal arches erected to Septimian Severus and Commodus; the capitol or temple dedicated to Jupiter, Juno and Minerva, which has a portion of eight columns; a splendid building in the old Roman camp dating from 268 A.D.; cemetery to the north and east with the stones still standing, although those to the west of the village have had their stones removed for building purposes. There are, besides, remains of an amphitheatre, arsenal, baths, residences, an aqueduct, a single standing column of the temple to Aesculapius and some fine statues and mosaics.

The ruins of the town have yielded many inscriptions, of which L. Renier edited 1,500 and 4,185 are in the *Corpus Inscriptionum Latinarum*. More than 2,500 of the inscriptions relate to the Roman camp. Pop. (1948) 1,418.

Consult Renier, L., *Inscriptions romaines de l'Algérie* (Paris 1855); Graham, A., *Roman Africa* (London 1902).

LAMBETH, a municipal and parliamentary borough of London, Eng., on the right bank of the Thames, opposite Westminster area, 4,080 acres. Lambeth has been famous for its potteries for over 200 years; soap and chemicals are the other chief manufactures.

Lambeth Palace has been the official residence of the archbishops of Canterbury since the end of the 12th century. The oldest part remaining is the Early English Chapel. The so-called Lollard's Tower dates from 1440. The palace contains a fine series of portraits of the archbishops and possesses a magnificent library containing a valuable manuscript collection. Lambeth suspension bridge crosses the river below the palace. Astley's Circus and Vauxhall Gardens, at one time famous resorts, were located here.

The borough for parliamentary purposes is divided into four constituencies, each returning one member.

During World War II the famous palace library wing, built in 1663, was demolished and St. Thomas' Hospital, built in the 9th century was badly damaged by robot bombs. Pop. (1951) 230,105. See also LAMBETH ARTICLES; LAMBETH CONFERENCE.

LAMBETH ARTICLES, in the Anglican Church a name given to a statement of certain doctrines of predestination, justification and free-will, drawn up at Lambeth Palace in 1595 by William Whitaker, master of

John's College, Cambridge, and other Anglicans who leaned toward Calvinism, including John Whitgift, Archbishop of Canterbury. They were rejected by Queen Elizabeth I.

Consult Curtis, W. A., *History of Creeds and Confessions of Faith* (Edinburgh 1911).

LAMBETH CONFERENCE, the name given to assemblies of bishops of the Anglican Communion, held approximately every ten years at Lambeth Palace, the official residence of the archbishop of Canterbury in London, England. The Conference is regularly attended by bishops of the Protestant Episcopal Church in the United States as well as by bishops of the Church of England and its branches throughout the British Commonwealth. The conference does not pretend to legislate, or promulgate official doctrine; but its pronouncements on matters of faith and morals reflect the consensus of the higher clergy of the Anglican Communion.

The idea of a pan-Anglican conference was first put forward by John Henry Hopkins, first Protestant Episcopal bishop of Vermont, in 1851. It was revived in 1866 by the Anglican bishops of Canada, as a means of coping with problems arising from controversy over the writings of John William Colenso (q.v.), bishop of Natal. The first assembly, in 1867, was attended by 76 bishops; but nearly as many others, doubting its propriety, remained away. Succeeding assemblies gained greatly in attendance and influence. The most important practical outcome of the Conference in its first half century was its endorsement, in 1888, of the Lambeth Quadrilateral, a set of four articles of faith defined as a basis for reuniting Christendom. The articles stipulate acceptance of the Old and New Testaments as the full and ultimate canon of faith; assent to the Apostles' Creed and the Nicene Creed; acknowledgment of baptism and the Supper of the Lord, as the only sacraments ordained by Jesus; and acknowledgment of the historic episcopate, locally adapted to the peculiar needs of nations and peoples.

Consult Curtis, William Redmond, *Lambeth Conferences; the Solution for Pan-Anglican Organization* (New York 1942); *Lambeth Conferences, 1867-1948; the Reports of the 1920, 1930, and 1948 Conferences, with Selected Resolutions from the Conferences of 1867, 1878, 1897, and 1908* (New York 1950).

LAMBIN, lān-bān', Denis (Latin DIONYSIUS LAMBINUS), French philologist: b. Montreuil-sur-Mer, France, 1516; d. Paris, September 1572. He was educated at Amiens and in Italy, and was appointed professor of eloquence (1560) and professor of Greek (1561) in the Collège Royal, Paris. He is reported to have worked with painstaking slowness, but he produced several celebrated editions of classical authors, notably of Horace (1561), Lucretius (1564), Cicero (1566), Cornelius Nepos (1569), Demosthenes (1570), and Plautus (1576).

LAMBKILL. See MOUNTAIN LAUREL.

LAMBRUSCHINI, lām-brōō-skē'nē, Luigi, Italian Roman Catholic prelate and statesman: b. Genoa, Italy, May 16, 1776; d. Rome, May 12, 1854. He entered the order of Barnabites at an early age, and subsequently was archbishop of Genoa (1819), papal nuncio in Paris (1827-1830), and secretary of state to Pope Gregory XVI (after 1836). He was created a cardinal in 1831.

As papal secretary of state he opposed innovations and tried vainly to strengthen the temporal power of the papacy. Compelled to flee Rome by an uprising in 1848, he joined Pope Pius IX in exile at Gaeta, where he remained until 1850. He was the author of *Opere Spirituali*, 3 vols. (2d edit. 1838).

LAMB'S CLUB, a social club in New York, N. Y., composed chiefly of actors, musicians, and playwrights, incorporated May 10, 1877. It was organized in 1874-1875 by a group of newspapermen, authors, and theatrical performers who had formed the habit of dining together periodically at the United States Hotel. Its name was derived from a similar London club. A provision of the constitution limits the non-professional membership to one-third of the total. The president of the Lambs is called the Shepherd; the vice president is the Boy; and an officer called the Collie manages the club's annual "Gambol," an entertainment comprising notable features of each season's plays, presented by the principals. The Gambol formerly toured larger cities in the United States each spring, yielding funds to finance the building of a clubhouse at 128 West 44th Street, in the theatrical district of Manhattan.

LAMB'S LETTUCE. See CORN-SALAD.

LAMB'S-QUARTERS, a pigweed (*Chenopodium album*), found wherever there is sunlight, loose, cultivated soil, and moisture. It is fast growing, and reaches a height of three feet, bearing alternate, lobed leaves up to four inches long, and, close to the stem, clusters of fruits that persist through the winter. The flowers are greenish and small. The fruits and young plants are edible, cooked or raw. Control is commonly by cultivation, before the plant flowers. Lamb's-quarters was probably introduced into the United States from Europe or Asia, by way of agricultural shipments.

LAME, là-mā', Gabriel, French mathematician and engineer: b. Tours, France, July 22, 1795; d. Paris, May 1, 1870. He became interested in the mathematical analysis of elasticity and heat conduction in solids, and introduced important new mathematical concepts, notably generalized curvilinear coordinates.

LAMECH, lā'mēk, in the Old Testament, the name of one or possibly two Hebrew patriarchs who lived before the Flood. A genealogical list in Genesis 4:1-24 mentions Lamech as the son of Methuselah and father of Tubal, Tubalcain, and Jubal. A list in Genesis 5 mentions Lamech as the son of Methuselah and the father of Noah. See also SCROLLS, THE DEAD SEA.

LAMENNAIS, là-mē-nē', Félicité Robert de (originally FÉLICITÉ ROBERT DE LA MENNAIS), French priest, philosopher, and apostate from the Roman Catholic Church: b. St. Malo, France, June 19, 1782; d. Paris, Feb. 17, 1854. In 1808 he published (with his elder brother, Jean-Marie) *Réflexions sur l'État de l'Eglise en France pendant le XVIIIème Siècle et sur la Situation Actuelle*, which was suppressed by the French police because of its handling of controversial issues. He entered the Roman Catholic clergy in 1809, but was not ordained until 1816. After his ordination he began the pub-

lication of his monumental work 'Essai sur l'indifférence en matière de religion' (4 vols., 1817-24; English trans. by Stanley, London 1898). With the fervor of intellectual conviction he advocated a strict restoration of the original Catholic doctrine. He denounced the spirit of individual inquiry which Descartes, Rousseau and Luther had stimulated to the detriment of the church and the state. Politically he favored the submission of temporal to spiritual authority and advocated a form of democracy deriving its power from a theocracy. Pope Leo XII at first approved of his religious philosophy, and invited Lamennais to visit Rome where he was graciously received and offered a place in the Sacred College. He preferred, however, to return to France, where he already had a large following, especially among the younger clergy, and with Chateaubriand he soon became known as a political power. His essays appeared in the *Conservateur* for a time, but the monarchical tendencies of de Villèle, one of the chief owners of the paper, soon alienated his sympathies, and he began to publish two independent journals, *Le Drapeau blanc* and *La Memorial Catholique*. From 1825-26 he was also occupied with the publication of 'De la religion considérée dans ses rapports avec l'ordre civil et politique.'

At La Chênaie, Lamennais with a brilliant following, including among its ranks Lacordaire, Gerbet, Rohrbacher, Salmis, de Carné, and later de Guérin, worked enthusiastically for his great reforms. The organ of this group was the journal *L'Avenir*, which took as its motto, "Dieu et Liberté"; and the body of active sympathizers and workers for the cause of theocratic democracy was known as the "Agence générale pour la défense des intérêts catholiques." The liberal tone of the paper offended a great number of the conservative clergy, and Lamennais resolved to go to Rome to take the matter up with the Pope. Accordingly, he suspended publication, and with Lacordaire set out for the Holy City in 1831 to meet Gregory XVI. They were, to their surprise, coolly received by the Pope, who asked them to drop the matter. All obeyed promptly except Lamennais who still hoped for a favorable reception; but when further letters of the Pope indicated clearly his concessions to temporal authority, Lamennais abandoned hope. Shortly after his departure, the encyclical "Mirari vos" was sent out by Rome in which Gregory formally denounced the theories set forth in *L'Avenir* and propagated by the "Agence." Broken-spirited, the party returned to La Chênaie where, in 1834, Lamennais wrote his stirring answer, 'Les Paroles d'un croyant,' which he sent to Sainte-Beuve for publication. Gregory made reply in the encyclical "Singulari nos" (1834).

It was not long before Lamennais rallied his force and his followers and began to direct his energy toward the championship of the rights of the people alone. In support of "la liberté et la humanité" he wrote 'Les Affaires de Rome' (1836); 'Le Livre du peuple' (1837); and 'Le Pays et le gouvernement' (1840), for which he was imprisoned for a year at Sainte-Pelagie, where he wrote 'Une Voix de prison.' This was followed in 1843 by 'Amschaspands et Darvands.' 'Le Deuil de

la Pologne' (1846), and numerous other pamphlets and treatises. In 1840 he collected the articles which had appeared in *L'Avenir* and published also a remarkable work in three volumes, 'Esquisse de philosophie.' The third volume entitled 'De l'Art et du beau' still remains one of the finest of discussions on æsthetics. He was recognized as one of the leaders of the Liberal Democratic party, and in defense and support of the Revolution of 1848 published *Le peuple constituant*, which, like a later publication, *La Revolution démocratique et sociale*, was forced to an early death through lack of financial means. He was chosen a member of the Constituent Assembly where he sat with the Extreme Left. His last years were occupied with the translation of Dante's 'Divina Commedia.' He refused to accept a church burial, and was interred without any religious ceremony.

Several volumes of posthumous works and letters have been published by Forgues (1858); H. de Courcy (1862); A. Blaize (1866); by A. du Bois de la Villèrabel (1866); and M. A. Rousel (1892). Incomplete collections of his works have been made, one in 10 volumes (Paris 1836-37); and another in 10 volumes (Paris 1844). Consult also Blaize, A., 'Essai biographique sur M. de Lamennais' (1858); Brunetière, F., 'Nouveaux essais sur la littérature contemporaine' (1893); Janet, Paul, 'La philosophie de Lamennais' (1890); Renan, E., 'Essais de morale et de critique' (1857); and Sainte-Beuve, 'Portraits Contemporains' (1832) and 'Nouveaux Lundis.'

LAMENTATION FOR THE DEAD.

See FUNERAL RITES.

LAMENTATIONS, Book of. See JEREMIAH, LAMENTATIONS OF.

LAMETH, la'mēt', Charles Malo François, COUNT DE, French general and politician; b. Paris, 5 Oct. 1757; d. Pontoise, 28 Dec. 1832. He served in the French expeditionary force which aided the American Revolutionists, was aide to Rochambeau and at the battle of Yorktown received serious wounds. He was deputy to the States-General in 1789; and in 1791 he was elected to the National Assembly by the nobility. His opposition to Mirabeau resulted in his arrest and he fled to Hamburg where he remained until 1800. He returned to France under the consulate, fought under Napoleon and was made governor of Würzburg. In 1814 he joined the Bourbons, and in 1820 succeeded his brother, Alexandre, as deputy.

LAMIA, a mythical queen of Libya, who, on being robbed of her own children by Hera, devoted her life to strangling and eating children. In later story Lamia was a vampire who seduced and then sucked the life-blood of young men. As a vampire she appears in Goethe's 'Die Braut von Korinth' and Keats' 'Lamia.'

LAMIA, (Turkish Zeituni or Zituni), city of Greece, capital of the provinces of Phiotis and Phocis, near the head of the Gulf of Lamia, 28 miles southeast of Pharsalos. It is situated upon the side of a hill crowned by a mediæval fortress, and has remains of the ancient city from which the Lamian War (323 B. C.) takes its name. On the south of the gulf is the Pass of Thermopylæ. The modern city has

azaar, gardens and a mosque. Its principal industry is the raising of camels. The city resumed its ancient name after Turkish rule was thrown off. Famous in its more recent history is the nearby bridge of Alamanna, where, in 1821, 700 Greeks commanded by Diakos and the bishop of Salona withstood the progress of the Turkish army. Pop. 14,712.

LAMIA, lām'ī-ā. This narrative poem in couplets was written by Keats in 1819 and published, together with *Isabella* and *The Eve of Saint Agnes*, in 1820. Keats founded his poem on an incident given by Burton in the *Anatomy of Melancholy* from Philostratus, concerning the marriage of a Corinthian youth to a serpent-woman or Lamia. At their wedding her real nature is detected by the philosopher Apollonius, and on being denounced she vanished. The story belongs to a familiar type of folklore incident, commonly known as the "swan-maiden motive," of which Coleridge's *Christabel* is another example in literature. Keats does not, like Coleridge, emphasize the supernatural suggestiveness of his material, but is interested rather in its picturesque and emotional values. He prefaces the meeting of Lamia and Lycius by a brilliant description of the serpent and an account of her transformation by Hermes into a woman. Lycius is enthralled by love and the enchantment endures until the fatal desire comes upon him to marry the maiden in the presence of his friends. The close of the poem is made to illustrate Keats' favorite idea of the antagonism between the life of feeling and abstract reflection. Apollonius, who comes uninvited to the feast, represents the chilling philosophy which destroys the illusions of poetry and romance. The poet's sympathies are all with the enamored lovers. In style and versification *Lamia* shows traces of the influence of Dryden. The rich sensuousness of *The Eve of Saint Agnes* here takes on an almost metallic brilliancy, but the poem is a little inferior as a work of art. For references see article ODE ON A GRECIAN URN.

JAMES H. HANFORD.

LAMINARIA, lām-ī-nā-rī-ā, an important genus of brown seaweed of the family Laminariaceae, prolific in the colder coastal waters of the temperate zones. The species has no definite leaves, the thallus forming a ribless expansion, flat and ribbon-like, either simple or cleft. A few species are edible, while others are employed as fertilizers and in the making of kelp. Among them *L. bulbosa* and *L. digitata*, which attain immense length, were formerly important in the production of carbonate of soda, but the discovery of common salt as a more accessible and prolific source of supply has largely superseded their use. *L. potatorum* is a native of the Australian coasts and furnishes the natives with food and material for domestic utensils and implements. *L. bucinalis*, a native of the Cape of Good Hope, yields iodine, while several Japanese varieties are edible.

LAMINATION, lām-in-nā'shūn, the division or divisibility of rock into thin layers or sheets. Lamination occurs chiefly in rocks composed of fine-grained materials and evidently is produced by deposition in water and variation in the nature of material deposited. The term

usually is limited to stratified rock, although some geologists apply it to the tabular structure of igneous crystalline rocks.

LAMMAS, lām'ās, **DAY** (M.E. hlammaesse, "loaf-mass") in the calendar, the 1st day of August, so called perhaps from the custom which formerly prevailed among the tenants who held lands of the cathedral church in York, England, of bringing offerings of the first fruits of the harvest in the form of wheat loaves on that day.

LAMMASCH, lām'āsh, **Heinrich**, Austrian jurist: b. Seitenstetten, May 21, 1853; d. Salzburg, Jan. 6, 1920. He studied at Vienna and was appointed law lecturer there in 1878. In 1885-1889 he was professor at the University of Innsbruck, and in 1889 he became professor of law at Vienna. He entered the Austrian Upper House in 1899 and became leader of the Conservatives. He represented Austria at the First Hague Conference (1899) and in 1911 was president of the Hague Tribunal. He was an arbitrator on the Venezuela case, 1903-1904; and presided over the boards deciding the Muscat case, 1905, and the Newfoundland fisheries controversy in 1910. He published *Moment objektiver Gefährlichkeit im Begriffe des Verbrechensversuche* (1879); *Diebstahl und Beleidigung* (1893); *Rechtskraft internationaler Schiedssprüche* (published by the Nobel Institute, 1913); *Schiedsgerichtsbarkeit* (1914), etc.

LAMMERGEIER, lām'ēr-gī-ēr, the largest of European eagles (*Gypaëtus barbatus*), often called griffon-vulture because it frequently feeds on carrion, especially bones abandoned by other animals, which it has power to break, or carries to a great height in the air and then lets fall; it does the same with tortoises, which form an important part of its fare in some countries. The lammergeier is a bird of the mountains and deserts of southern Europe (where it has now been nearly exterminated), northern Africa and southern Asia; it builds a great rude nest on some mountain ledge and lays a single brown-blotched egg.

LAMON, lām'un, **Ward Hill**, American biographer: b. 1828; d. Martinsburg, W. Va., May 7, 1893. He was the law partner of Abraham Lincoln at Springfield, Ill., and after the latter's election as president became his private secretary and was appointed by him marshal of the District of Columbia. He published *Life of Abraham Lincoln, from His Birth to His Inauguration as President* (Boston 1872); *Recollections of Abraham Lincoln*.

LAMONT, lā-mōnt', **Daniel Scott**, American politician: b. Cortlandville, N. Y., Feb. 9, 1851; d. Millbrook, N. Y., July 23, 1905. Educated at Union College, Schenectady, he entered journalism at Albany, became a political correspondent, was private secretary to President Cleveland in 1885-1889, and was secretary of war in Cleveland's second administration (1893-1897). Secretary of the Navy William C. Whitney in 1889 launched him in street-railway financing from which he accumulated a fortune. He was vice president of the Northern Pacific Railway Company from 1898 to 1904.

LAMONT, lā'mōnt, **Johann von**, Scot-

tish-German astronomer and physicist: b. Braemer, Aberdeenshire, Dec. 13, 1805; d. Munich, Aug. 6, 1879. Sent as a child to be educated at the Scottish monastery at Regensburg, he appears never to have returned to his native land. Assistant at the Bogenhausen observatory near Munich in 1828, he was director from 1835 until his death, also professor of astronomy at the University of Munich from 1852. His fame rests mainly on 11 zone catalogues of 34,674 stars; measurements of nebulae and clusters; and observations of the satellites of Uranus resulting in determination of its mass. In 1840 he established a magnetic observatory at Bogenhausen. He made magnetic surveys of Germany, France, Spain and Denmark; announced the magnetic decennial period (1850) and discovery of earth currents (1862).

LAMONT, Thomas William, American financier: b. Claverack, N. Y., Sept. 30, 1870; d. Boca Grande, Fla., Feb. 2, 1948. Son of a rural Methodist minister, he passed his boyhood years in the small Hudson River communities where his father held pastorates. Graduating at Harvard in 1892, he worked as a reporter on the New York *Tribune*, then entered a food production house which he reorganized as Lamont, Corliss and Co. Secretary and treasurer of the Bankers Trust Company in 1903, he became vice president two years later and in 1908 transferred to the First National Bank. In 1911 he became a partner of J. P. Morgan and Co. Under the younger Morgan, Mr. Lamont and H. P. Davidson developed and carried out the plans for American financial help to Great Britain and France prior to American entry into World War I. In 1919 he served on the American Commission to Negotiate Peace. When in 1940 the Morgan house became an incorporated commercial bank and trust company, he became chairman of its executive committee and in 1943 chairman of the board. For a time he owned the New York *Evening Post* and for several years after relinquishing ownership retained its literary supplement which he published as *The Saturday Review of Literature*.

LAMORICIERE, lâ-mô-rê-syâr', Christophe Léon Louis Juchault de, French general: b. Nantes, Feb. 5, 1806; d. Prouzel, Sept. 11, 1865. He entered the engineers in 1828, served in the Algerian campaigns from 1830, and in 1843 became a general of division. He rendered important service at the battle of Isly, Aug. 14, 1844; acted temporarily as governor-general of Algeria, and in 1847 secured the surrender of Abd-el-Kader, thereby terminating the war. Upon his return to France he was elected to the Chamber of Deputies and served as minister of war under General Cavaignac. A bitter opponent of Louis Napoleon, he refused to give allegiance after the coup d'état of Dec. 2, 1851 and was exiled. He became commander of the papal army in the Italian campaign of 1860, but was defeated and forced to surrender his army at the battle of Castelfidardo, Sept. 18, 1860. The remaining years of his life were spent in retirement in France.

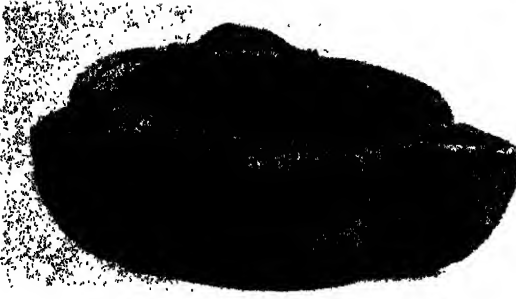
LAMOUREUX, lâ-môo-rû', Charles, French violinist and orchestra leader: b. Bordeaux, Sept. 20, 1834; d. Paris, Dec. 21, 1899.

He entered the conservatory at Paris in 1850 and in 1853 became first violin at the opera. He founded the Société de l'Harmonie Sacrée, and gave the first performance in Paris of Handel's *Messiah* in 1873. In 1876 he became leader of the orchestra at the Opéra Comique and in 1881 he inaugurated a series of Wagnerian concerts. He was twice leader of the orchestra at the Paris Opera and his visits to London were the occasion of many successful concerts at Queen's Hall. He was notably successful in his efforts to popularize the music of Wagner.

LAMP, any contrivance which through the formation of its parts affords a means of producing light, and sometimes heat, by the combustion of oils, fats or inflammable fluids, with the aid of a wick, which, by capillary attraction conveys the substance burned to the flame point. By modern adaptation of the word many appliances for producing light by gas or electricity are designated as lamps, and the illustrations of lamp standards that accompany this article show the high pitch of artistic excellence to which they have been brought. The history of the lamp, however, is interesting, especially as the development of the modern oil lamp and of general illumination can be said to date only from about 1840. Man ignorant of fire is unknown; therefore, the use of the burning brand as a torch may be regarded as coeval with the race, and the torch as the progenitor of the succeeding lamp. Considered archaically the primitive lamp was a very simple device. An unworked stone, having a natural concavity, a sea shell, or the skull of an animal, constituted the earliest forms. A bit of moss or a twist of vegetable fiber served as a wick. Fat, grease or fish oil furnished the illuminant. The introduction of the lamp marked the first stage of man's advancement toward civilization, and may, therefore, be appropriately considered as a figure or symbol on the dial of time pointing to the dawn of his intellectual awakening. When, or where, or by what people the first lamps were made cannot now be determined. Recent archaeological discoveries in ruins of the long-buried cities of the Mesopotamian plain, Assyria, have revealed many terra-cotta lamps of a variety of forms, and of good workmanship, that were in common use 7,000 or 8,000 years B.C. It would be an unwarranted assumption to assert that these well-developed creations denote the beginning of the lamp. Stone lamps have been found that are undoubtedly of great antiquity, but this fact alone does not necessarily class them as palaeolithic; they are simply prehistoric, and of an age that cannot be definitely determined. The so-called Stone Age determines so little that is of real chronological value that classifications in archaeology cannot always be wisely made upon data thus furnished. French archaeologists have within a few years recovered from the lakes of Switzerland bronze lamps that were in use by the lake-dwellers at a period late in the lacustrine period. These are without doubt the most ancient metal lamps yet discovered.

Early Examples.—Whether the first emigrants from Asia into ancient Greece found the Pelasgic peoples using lamps, or whether the invaders brought the art of lamp making with them, neither legend nor tradition has left even a mythical answer. In our researches in lamp

LAMPS



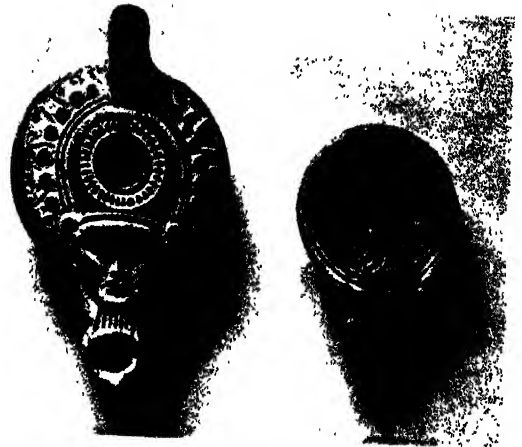
Lamp. Thebes. 4th century B.C.



Lamp. Cypriote. 4th century B.C.



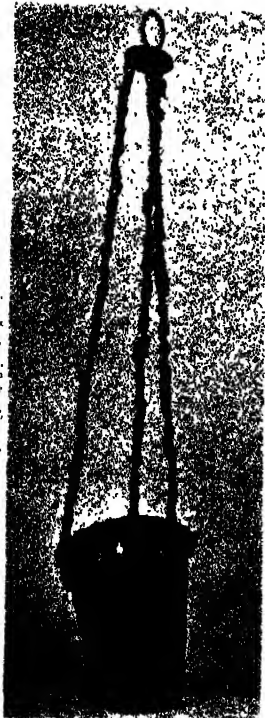
Egyptian lamps.



Roman lamps.



Greek lamp (metalwork).



Votive hanging lamp.
Romanesque.
12th-13th century.



Courtesy The Metropolitan Museum of Art
Lamp. Knossos (limestone, 1400 B.C.).

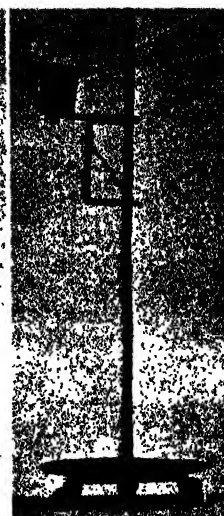
LAMPS



Miner's lamp, with original wick and tallow. 16th century.



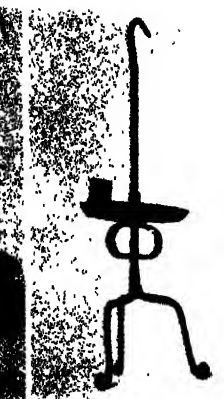
Hanging lamp. French. 17th century.



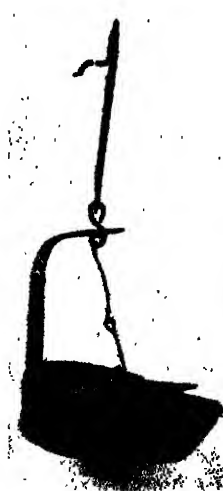
Three Spanish lamps. 16th to 18th century.



Betty lamp. American. 17th century.



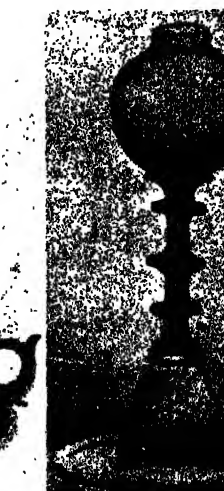
Four Spanish lamps. 16th to 18th century



Betty lamp. American. 18th century.



Brass lamp. American. 19th century.



Clear flint glass lamp. American. 19th century.



Table lamp. American. 19th century.



Whale oil lamp. American. Early 19th century.

Courtesy The Metropolitan Museum of Art

archæology we can at the best but work our way backward, from the known to the unknown, from the ascertained facts to that dim, mysterious darkness of remote antiquity where all traces of chronology are lost, and where our conclusions must be largely sustained by deductions drawn from analogical reasoning. The poems ascribed to Homer, 950 B.C., contain all that we know of the manners and customs of early Greek society. He speaks of the "Festival of Lamps," and makes frequent mention of the torch. The Greek and Roman torch was often

ly a terra-cotta, or bronze, lamp-shaped device secured to a staff. The so-called "grease-lamp" of Egypt is without doubt more ancient than the oldest lamp of Greece and the terra-cotta lamps of Babylonia are also thousands of years older. Egypt as a nation was on decline when the history of Greece began. Egyptian records found on clay tablets proclaim with a remoteness of antiquity as yet unterminded. Among the many ancient relics recovered in the ruins of the Babylonian cities were terra-cotta lamps that closely resembled those of early Greece. This similarity of configuration between the earliest examples of the Greek and those of Greek make of a period was perhaps midway between the first millennium, 776 B.C., and the beginning of the Christian era is remarkable. Only the simplest types are represented. A shallow, saucer-shaped oil or fat reservoir being the most primitive of terra-cotta lamps. Then comes the oval shape, with a slight prolongation of the rim into a short, narrow rostrum, or wick support, the formation of a rudimentary handle. Then the oval shape with the reservoir enclosed, and supported by two wick supports. These constitute the types that were essentially common to all Eastern lands. The later Greek and Roman lamps, in terra-cotta and bronze, are remarkable for their ornamentation, and artistically graceful in form. These constitute a division that separates the crude primitive from the finished product.

The earliest terra-cotta lamps were made of one piece, and baked without glazing. Later Greek and Roman terra-cotta lamps were made of two principal parts, the "crater," or oil reservoir, and the "discus," or covering for the reservoir. Each of these parts were joined together after being molded, and then baked. The ornamentations were generally confined to the "discus," and were called the "limbus" or "nasus," or wick support, as well as the "ansa," or handle, were most frequently made separately and carefully attached to the body of the lamp before baking. The "discus" had a small circular opening near the centre through which the lamp could be filled. Many of the better lamps had the maker's name, and often his private mark, stamped on the bottom. Large terra-cotta lamps were frequently made with two, three and sometimes six or even 12 "nases." The lamp with "nasus" for one wick was called a "monomyxos," and that for two wicks a "dimyxos," and so on. The Greek and Roman bronze lamps were made in an almost endless variety of forms, and were often beautiful and artistic to a marked degree. Plain iron lamps were used by the common people at a later period. They were either cast or forged in a single piece, and were mostly ectypes of the more artistic and costly terra-cotta and bronze lamps, but were without decorations.

The study of the ancient lamp maker was devoted alone to the external form of his wares. Grace, beauty and elegance, as expressed in outlines and decorations, were his chief concern. No attempt was made to improve the light. The pale, smoky, flickering flame continued to shed its uncertain light from the massive and costly silver candelabrum of the wealthy just as it had for untold ages from the simple stone and terra-cotta lamps of their ancestors. Etruscan terra-cotta and bronze lamps so closely resembled those of early Greek make that a separate description is not required in this article. The chief characteristic, however, that distinguished the true Etruscan pottery from that of Greece is the strong coloring that was applied to the former. What was true of the art of lamp making in Greece was also true of the rest of the civilized world, for it was more than 17 centuries after the Christian era before any real improvement was introduced in lamp construction.

The Inventive Age.—Prior to 1783 many lamps and illuminating appliances had been introduced, but there was little if any improvement in the light afforded, or marked advancement in the construction or mechanical arrangement of the parts designed to increase the brilliancy of the flame. The first real improvement was the introduction of the flat, woven, ribbon-like wick, and the securing the wick in a close-fitting support. This arrangement permitted only a small surface of the wick to be exposed to the flame, and the wick being narrow the flame came in contact with the centre as readily as the outward parts and thus most of the free carbon was consumed, consequently there was less smoke than in the old style of loose wick. M. Legers of Paris introduced this improvement in 1783. To this was attached for the first time a spur-wheel, which by rotating adjusted the wick, thus regulating the flame. The same year M. Argand, the Swiss chemist, introduced his improvement in burners, which consisted of a tubular wick attached to a tube which extended through the oil reservoir and opened into the base of the lamp, thus affording a means of centre draught, which supplied an abundance of oxygen to the flame and created sufficient heat to consume all of the carbon and so prevented the escaping of smoke. This was truly the beginning of a new era in lamp making, for the art now entered upon what may be designated as "the inventive age of the lamp." Science and invention now came to the aid of the artisan. Principles involving an understanding of the laws of combustion and the science of light were applied to the construction of illuminating devices. The result was more light and better light. Argand's epoch-making invention related wholly to his improved burner. His first lamps were simply huge oil reservoirs with his new burner attached to the top. He used sheet iron chimneys formed with a hood opening over the flame. The use of glass chimneys with the Argand burner came about purely by accident. A workman in attempting to heat a bottle over the flame cracked off the bottom, and because the glass had become too hot for him to hold he momentarily placed it over the burner. The result was surprising; the brilliancy of the flame was not only increased but the light became steady and in every way

superior to that produced with a sheet iron chimney. The brilliancy of the light on the top of the huge reservoir made a wide shadow. To overcome this was a problem that was finally solved by a German lamp-maker, who produced a model in which the burner was secured to the end of a long neck or rostrum, very much like the present so-called German student lamp. The removing of the light away from the great reservoir not only reduced the shadow but afforded a more ready means of supplying the oil to the wick uniformly. In 1800 Carcel introduced his ingenious lamp which was provided with a clock-work device, which operated a small pump, raising the oil from the base of the lamp to the wick-holder, thus keeping the wick uniformly submerged in the oil. This contrivance was too costly to come into general use, and was confined mostly to lamps used in halls and large rooms. Many lamps were offered by makers that were designed to burn crude, heavy whale oil, and others in which lard oil was consumed. Lard oil lamps were inconvenient in cold weather, for the oil would become solid. To overcome this several devices were invented. Perhaps the most successful was the lamp with a copper tube, the upper end of which was between two wick tubes, while the lower end passed through the oil to the bottom of the lamp. Copper being a good conductor of heat, the oil was thus kept in a liquid state while the lamp was burning. For many years lard oil was the only illuminant used in the great lamps of the lighthouses of the world. It was not until after 1880 that burners for lighthouse lamps had been constructed that would satisfactorily consume kerosene oil. Up to about 1800 but few small, portable lamps had been made. Nearly all the appliances so far introduced for domestic illumination were large, so-called, table lamps, and mural lamps. English manufacturers first made small hand lamps of tin, brass and pewter. These were mostly lard or whale oil burners, with a single wick tube. In the whale oil lamps the wick tube was round, in the lard oil lamps the flat, woven ribbon-wick was used, the wick being moved up and down in the lard oil lamps by a spur-wheel. In the whale oil lamps a small aperture in the upper part of the wick tube was provided, through which "a prick" could be inserted by which the wick was pricked up or down. In the large and important field of research and experiment in domestic illumination, American genius and skill very early took a prominent part.

Lamps in America.—Before proceeding to the introduction of a description of early American inventions relating to lamps and lighting appliances, it will be interesting to briefly notice what may be truly designated as the original American lamp. There has never been found among the remains of the mysterious mound-builders of the Western Continent any utensil that could be rightly regarded as a lamp. The North American Indians, who were found inhabiting the country on the arrival of the first Europeans, did not possess a lamp. The pine torch was their only means of artificial illuminating. The one lamp that can claim the distinction of being really American is the stone lamp of the Eskimo. This is usually a shallow vessel of stone, most frequently of soap-stone,

sometimes bone, clay, wood and the skull of an animal is used. The oil of the seal, walrus and whale is burned in these rude lamps, dry moss serving as a wick. These lamps also serve as stoves, for they are used for cooking and warming. Without these simple lamps human life could not be maintained in the inhospitable regions these strange people inhabit.

The first lamps used in the Plymouth Colony were of Dutch make, and were called by the English emigrants Betty lamps (German, *Besser-better*). The few lamps that the Pilgrim fathers brought with them in the *Mayflower* on her memorable voyage were of this class. They are of iron, either forged from a single piece or were cast of gray, coarse iron. The earliest of these were known as the open Betty, or "Slot lamp." Then followed the Betty with a top, one part of which was formed as a hinged lid. The wick support was an angular, half round iron secured to the inside bottom of the lamp. There was an upright handle at the back, to which was attached, by a link, a pointed hook, the point of which extended beyond the crook. This was used to suspend the lamp from the high back of the rush-bottom chair, or the point was thrust into the crevice between the great stones of the side of the open fire-place. The Betty was pear-shaped, flat on the top and bottom. This form was sometimes made in brass, but rarely was any attempt made at ornamentation. These lamps were in use in some parts of the New England colonies as late as 1790. Prior to 1680 all lamps used in the American colonies were imported, mostly from England. In 1680 a tinsmith of Newbury, Mass., began the manufacture of tin Betty lamps. These, after Newburyport was separated from Newbury, became known as Newburyport Bettys. Later these lamps were made in Rivermouth (Portsmouth, N. H.) and were called Portsmouth Bettys. In 1720 a few pewter and brass lamps had been made by small manufacturers at Salem, Mass., and Providence, R. I. These were heavy and extremely inconvenient to be carried about. Among the earliest makers of pewter lamps and candlesticks in the New England colonies was Richard Graves, a pewterer who came from England, where he had learned the trade, or, as it was then called, the art. He came first to Boston, but moved to Salem, Mass., where he long worked at his business, and brought out many fine goods in his line. Henry Shrimpton of Boston was also a maker of fine pewter lamps, and his beautiful lamps and candlesticks graced many of the grand old colonial homes. Among the earliest American experimenters in lamp construction and inventors of improved burners was that marvellous investigator, philosopher, statesman and inventor, Benjamin Franklin (q.v.). Not content with perfecting an improved stove, known as the Franklin heater, he very early turned his attention to the improvement of domestic lamps. When we recall the fact that Franklin's first manual labor was cutting wicks in his father's chandler shop, it is not surprising that we find his versatile mind turning to the subject of improved illuminating appliances. Prior to 1742 candles were in general use in American colonies. The iron Betty lamps were used in a comparatively few families. The shallow saucer-shaped clay cruise introduced from Scot-

land was still used for lighting among the poorer classes, but candles were the chief illuminators. Franklin's first invention consisted in devising two round wick tubes so arranged that, according to his directions given to the workmen who constructed the burner, the distance between the tubes should equal the diameter of one of them. His theory was that the proximity of the two flames created an upward draught that so increased the heat that the liberated carbon was consumed, thus adding to the light and preventing smoke. He observed that the introduction of the third burner, while it consumed a third more oil, and added a third more flame, did not give a corresponding increase in light. Franklin also suggested the improved cotton wick, loosely braided, which afforded a better medium for supplying oil to the flame by capillary attraction. Franklin did not secure patents on his inventions, but allowed manufacturers to freely introduce them, which they did on quite an extensive scale, and small portable lamps of tin and brass with Franklin burners soon became very common.

Another American of note, Benjamin Thompson, better known as Count Rumford (q.v.), in 1789 wrote an exhaustive essay on "The Management of Light in Illumination." He constructed over 100 different lamps in his extended experiments. He invented the photometer to measure the relative intensity of light emitted by different illuminants. He found that the purest white light could be obtained by means of lamps properly constructed, using clarified vegetable or animal oil, at less than one-eighth of the cost for the same degree of light produced by wax candles, and for about half the cost of tallow candles. He invented one burner. In this he constructed a central flat wick tube, with two similarly shaped tubes placed at acute angles on either side of the wick tube, his design being to supply oxygen through the angular tubes impinging on the central tube. This burner did not satisfy him, and its introduction did not become general. In his further experiments he confined himself to the Argand burner, and devoted his attention to the better construction of the lamp proper. His aim was to produce a lamp in which the shadow should be eliminated as much as possible. He invented what was known as the "Astral lamp," which consisted of constructing an oil reservoir in the form of a flat, circular dish with radiating arms attached to the pedestal of the lamp, and securing the burner within the circle. He also introduced what he called the "Balloon Illuminator." This was for use in halls, ballrooms and salons. He also made what he called a "Dining-room Illuminator," and also a table or reading illuminator. All of Count Rumford's investigations and his extended experiments relating to lights and lamps, were carried on while he was in the public service of the Elector of Bavaria, who created him a count as a reward for his valuable services and as a recognition of his great learning and the importance of his researches and inventions.

Hundreds of patents have been granted to American inventors for lamps and lamp burners. One of the earliest patents on record in the United States Patent Office was for a device in which an adaptation was made of Franklin's two-wick tubes by securing them to a per-

forated disc through which the tubes passed. Beneath the disc was a cork through which the tubes also passed, the cork being cemented to the under side of the disc. This could then be fitted into the top of the lamp the same as a cork fits the neck of a bottle. This was mostly applied to glass lamps, which were first introduced in America in 1810. In 1812 one J. Neal secured a patent for a lamp provided with a telescopic sliding cylinder, the wick tubes were secured to the top of the cylinder, being screwed into a collar which formed the upper part of the tube. When the lamp was filled with oil, a float on the bottom of the tube extended the cylinder to its full length. The wicks were long, reaching to the bottom of the cylinder. As the oil was consumed the cylinder was correspondingly lowered, thus keeping the wicks uniformly submerged in the oil as long as any remained in the lamp. These lamps were made in tin, brass and pewter and became quite popular. In 1839 one J. Price of Nashville, Tenn., obtained a patent on an arrangement for burning pine knots. According to the directions the knots were to be cut up into small pieces and inserted into a tube, which had a diameter of about an inch and a half and a base not unlike an ordinary brass candlestick. A spring inside the upright tube was compressed as the pieces of pine knots were forced in. When the tube had been filled an oval cap or cover with a large opening was placed over the top and secured by a bayonet clutch. The spring forced up the wood to be burned through the opening in the cap; as it was burned away the ash fell into a circular receptacle secured on the upright pedestal. A sheet iron chimney with a broad hood partly surrounding the flame was provided as the specification says "to convey the ascending smoke away from the face of the person using the lamp." P. S. Moorhouse obtained a patent in 1830 for a lighting device in which balls of cotton or tow saturated with grease or fat were burned while held by an upright supporting claw secured to a pan base, in which the ash was collected. Between 1843 and 1845 S. Rust secured eight patents on lamps and five on burners. These patents did not introduce any new features, and consisted mostly of the introduction of novelties relating to forms and supposed ornamentation. His inventions in the line of burners did not involve any new features and possessed but little real utility.

The so-called "Solar Lamps," patented in 1843 by the Philadelphia firm of Cornelius & Company, were a great improvement over any table lamp so far introduced. They were constructed to burn lard oil. The burner proper was a modification of Argand's. The wick tube, over which the circular wick closely fitted, extended through the bottom of the oil reservoir, where it was provided with openings for the admission of air. The heat conveyed through the lard oil by the wick tube served to keep the oil in a liquid state in cold weather. The burner was so constructed that the flame was diffused more generally than in other lamps, while the bulb-shaped glass chimney created a hot-air chamber in which all free carbon was consumed. The light was profuse, white and clear. This firm manufactured a large variety of elegant lamps, which were used extensively in the homes of the wealthy. Benkler's lamp, introduced in 1840, had a tube through which air

was admitted to the flame, the angle of the tube being such that an upward movement of air was produced when the oxygen came in contact with the heat, and thus a forced draught was secured which made the light constant and aided greatly in the consumption of smoke. Through the means thus adopted cheap heavy oils could be burned without the offensive smell and excessive smoke produced by cheaper lamps when these low-grade oils were consumed.

Coal Oil and Kerosene Lamps.—About 1845 was introduced in the United States a compound that was known as burning fluid, or, from its inventor's name, Potter's fluid. This was a highly explosive illuminating fluid, composed of a mixture of about three parts of wood alcohol to one of purified oil of turpentine. This was burned in lamps provided with long, slender, tapering brass tubes, secured to a disc that screwed into a collar fitted to the upper part of the lamp. The wick was round, firmly woven cotton, which closely fitted the wick tubes. This was to prevent the escape of the vapor from the fluid. Little thimble-shaped caps, secured by small chains, were provided to cover the end of the wick tubes when the lamp was not in use. This was to prevent the evaporation of the highly volatile burning fluid. Camphene was the trade name of a burning fluid composed of oil of turpentine, purified by being distilled over quick-lime. This fluid was burned in lamps provided with the same class of burners as that described for burning fluid. The highly explosive nature of these dangerous compounds rendered them unpopular for domestic use, and they were soon displaced by the safer and cheaper kerosene oil, which came into general use about 1860. This was first called coal-oil, and in some localities mineral oil, while in others it was known as petroleum oil. Many hundreds of lamps and burners have been invented to use this cheap illuminant. In all successful kerosene burners a glass chimney is necessary. Many attempts have been made to produce a kerosene burner that would afford a clear, brilliant, steady, smokeless flame, without a chimney, but so far no good, practical lamp has been put on the market that successfully accomplishes this much-desired result. A lamp was made and introduced in 1869 that burned a vapor of naphtha without a chimney. While the flame from this device was white and brilliant, the light was flickering, and when moved about emitted annoying smoke. The highly explosive nature of the fluid burned made its common use unsafe, so that the vapor lamp never became popular. What is known as the German student lamp, supplied with an improved Argand burner, and the so-called Rochester lamp, employing another modification of the Argand burner, are the best and most successful kerosene lamps so far introduced. There are hundreds, if not thousands, of different kerosene oil burners attached to an almost endless variety of lamps now on the market. These embrace hand lamps, table lamps, piano lamps and a variety of library and parlor lamps that are remarkably rich in ornamentation and graceful in form and shape, but in the construction designed to assist the combustion of the oil in producing the illumination the same general principles are involved, and with the exception of the smaller hand lamps the original Argand burner principle is adhered

to, with slight modifications and improvements. In the small hand lamps a perforated hood-shaped cap surrounds the wick making a dome-like chamber through which the air drawn from the outside is deflected into the flame, thus supplying the needed oxygen. The flat ribbon wick is used in most of the smaller lamps, the wick being moved up and down by a spur-wheel as before described.

Safety Lamps are lamps so constructed that the danger from the foul explosive air of mines, especially deep coal mines, may be lessened or prevented, by so protecting the flame of the miner's lamp that it will not come in direct contact with the mixed carburetted hydrogen and atmospheric air, which is often present in such quantities as to create an element of great danger. The first safety lamps were called "Steel Mills," and were devices in which small steel wheels, with roughened edges, were rapidly revolved against a flint, securely held by a powerful spring. The sparks thus produced afforded an intermittent light which was sufficient to illuminate the more dangerous parts of the deep mines. But as this lamp necessitated the employment of a boy to revolve the wheel while the miner was engaged in his work, it proved too expensive for economic use. In 1813 Dr Canny in England introduced the first true safety miner's lamp. In his invention he produced a lamp in which the external air was admitted to the burner through a chamber containing water, while the flame was protected by a glass bulb, the product of combustion escaped through perforations in a flat support on which the glass bulb rested. This contrivance was so cumbersome, and so liable to breakage, that it never came into general use. In 1815 George Stephenson and Sir Humphry Davy contrived a safety lamp that, with slight modifications, has continued in use up to the present time. The air to support combustion was admitted to the flame through small openings in the bottom of the lamp, while the flame was protected by a glass, upright cylinder, the top of which was covered with a wire gauze cap. Several forms introducing slight changes from the original Davy lamp have been made. The lamp in which the flame is protected by a wire gauze cylinder in the place of a glass one was a later invention of Sir Humphry Davy. Mackworth's safety lamp was an improvement over the Canny lamp, and introduced features common to that and the Davy lamp. A water chamber was provided through which the external air passed before reaching the flame. Immediately surrounding the flame was a thick glass cylinder and above that a fine wire gauze cylinder, making a continuous protection about the flame. Outside of this was an additional wire gauze cylinder added as a means of protection against breakage. Lamps for jewelers, chemists and laboratory use are in reality miniature furnaces, and are generally provided with wide wick supports in which are large cotton wicks. Alcohol is the most common fluid used for generating heat in these lamps. Painter's lamps are contrivances in which naphtha is burned under pressure, the resulting heat being employed in the removing of old paint from surfaces which it is desired to repaint. Hat lanterns are simply lamps of various forms surrounded by glass globes or cylinders to protect the flame from the wind. Ancient la

terns were provided with transparent protectors made of horn scraped thin to permit the light to be reflected through. The word lantern is a combination of lant-horn, and was employed to express a light which was protected with a transparent horn. Another form of early lantern, now designated by collectors as the "Guy Fawkes lantern," was of tin, perforated with small punctures through which the light shone.

Early hall, or as they were called entry, lanterns were often massive and elegant ground glass globes, ornate and beautiful to a marked degree. Either candles or oil were used as illuminant. They were suspended by chains from the ceiling and a glass smoke protector was provided in those of more elaborate make. See ELECTRIC LIGHTING; GAS ILLUMINATION.

(Consult Norton, C. A. Q., *Light and Lamps of Early England*, in *Connecticut Magazine* (Hartford 1903-); Robins, Frederick William, *Story of the Lamp* (Oxford 1939).

C. A. QUINCY NORTON, M.D.

LAMP, Electric. See ELECTRIC LIGHTING.

LAMPADEDROMY, läm-pä-dēd'rōm-i, or **LAMPADEPHORIA**, -fō'ri-a, an ancient Greek torch race on foot or horseback, held in honor of Prometheus, Athena, Hephaestus, Demeter, Pan, Artemis and other divinities. The races undoubtedly originated in honor of Prometheus. The aim of the contestants was to be first to reach the goal with the torch still burning. The races were held at night, and in some of them the contestants were mounted. The foot races were run either singly, each contestant running the entire course, or in relays, in which case the torch was passed from one runner to another and the winner was the team whose torch first arrived. The extinguishment of the torch prohibited a bearer from continuing in the race. The races were regarded as very important, requiring vigorous physical tests and long training.

LAMPAS, läm-pās, or **LAMPERS**, läm-pēr-z, an inflammation and swelling of the mucous membrane of the hard palate in the roof of a horse's mouth. The swelling is back of the incisor teeth and is due to physiological causes; it usually occurs in young horses and at the time of shedding the teeth. No treatment is necessary although an astringent wash may be used.

LAMPASAS, läm-pās'sās, city, Texas, seat of Lampasas County, 60 miles north-northeast of Austin on a tributary of the Lampasas River, on the Atchison, Topeka, and Santa Fe and the Southern Pacific railroads and at the junction of U.S. highways 281 and 183. Altitude 1,025 feet. It is in an area raising livestock, cotton, grain, and poultry, and is a shipping point for cattle, sheep, wool mohair, turkeys, chickens, and pecans. Mineral springs near the community attract tourists.

Settled about 1854, Lampasas was an early cattle town and suffered frequent Indian raids until 1875, when the Comanches were finally driven from the region. Originally incorporated in 1874, it became a city in 1883. Pop. (1950) 869.

LAMPBLACK, finely divided carbon or soot, produced on a commercial scale by the direct combustion of organic materials that rich in carbon, such as tar, resins, pitch

and petroleum. The combustion is usually carried out in brick furnaces, or in cast-iron vessels, to which a smaller supply of air is admitted than would be required for complete oxidation. The dense smoke that results is led through a series of settling chambers, in which the lampblack is deposited, the finest grade being precipitated in the last chamber. Lampblack so prepared contains about 80 per cent of carbon, the remaining portion consisting of oily and resinous matters, together with moisture and certain inorganic substances, such as ammonium sulphate. The resinous and other organic constituents can be removed by heating to redness in a closed crucible, after which the soot is digested with hydrochloric or sulphuric acid, and washed to remove inorganic constituents.

Lampblack is used chiefly in the manufacture of paints and printers' inks and for these purposes the crude product is sufficiently pure. For the manufacture of Chinese ink ("India ink") the purified soot is preferable. In the German method the soot is deposited on woolen cloths hung in the chambers, from which the pigment is detached by beating. See also BLACKS; CARBON BLACKS.

LAMPER EEL, or **LAMPERN**, a lamprey (q.v.).

LAMPERTI, läm-pēr'tē, **Francesco**, Italian teacher of vocal music: b. Savona, March 11, 1813; d. Como, May 1, 1892. He studied at the conservatory at Milan and for many years was director of the theater at Lodi, where he also engaged in vocal training. From 1850 to 1875 he was professor of vocal music at the Milan Conservatory, after which time he engaged in private instruction. His reputation was worldwide and he numbered among his pupils Sembrich, Campanini, Galli, Albani and many other famous singers. He published several treatises on the training of the voice.

LAMPMAN, lämp'män, **Archibald**, Canadian poet: b. Morpeth, Kent County, Ontario, Nov. 17, 1861; d. Ottawa, Ontario, Feb. 10, 1899. Of United Empire Loyalist descent, he was graduated from Trinity College, Ontario (1882), and after 1883 held an appointment in the Post Office Department at Ottawa. He published two collections of poems, *Among the Millet* (1888), and *Lyrics of Earth* (1893). His *Complete Poems* appeared in 1900.

LAMPRECHT, läm-prékt, **Karl**, German historian: b. Jessen, near Wittenberg, Feb. 25, 1856; d. May 11, 1915. He was educated at Göttingen, Leipzig and Munich and in 1885 became professor of history at Bonn, in 1890 at Marburg and in 1891 was appointed to a similar office at Leipzig, which was admirably equipped for his work. As a teacher he was original in his methods, and to him history meant as much the revelation of sociology as of political events. In 1905 he represented Germany at the Congress of Science held at Saint Louis. He founded in 1882 the *Westdeutsche Zeitschrift für Geschichte und Kunst*. He was the chief exponent of the *Kulturgeschichte* and believed intensely in the superiority of German *kultur*. Shortly before his death he repudiated, with some indignation, the conception of Germany's part in World War I as having been dictated

by the "War Lords," and avowed that in regard to it that Germany was a unit. His writings include 'Beiträge zur Geschichte des französischen Wirtschaftslebens im elten Jahrhundert' (1878); 'Die römische Frage von König Pippin bis auf Kaiser Ludwig den Frommen' (1889); 'Deutsche Geschichte' (13 vols., 1891-1908); 'Zur jüngsten deutschen Vergangenheit' (1901); 'What is History' (1905); 'Americana' (1906).

LAMPRECHT THE PRIEST, a middle high German epic poet of the 12th century: date and place of birth and death unknown. Practically all that is known of his life is that he was called "the Priest" and that he wrote, about 1130, the 'Alexanderlied,' an epic poem, founded on a French poem by Aubry de Besançon, celebrating the life of Alexander the Great. It has been published in several different editions, among them being Vienna (1849), Frankfurt (1850), Halle (1884, 1898).

LAMPREY, an eel-like creature of the group *Cyclostomi* and family *Petromyzonidae*. The anatomical characters are described under *CYCLOSTOMI*. The lampreys feed principally on fishes, to which they attach themselves by their suckorial mouths, and then scrape away the flesh with their rasp-like teeth. There are about 7 genera and 15 species, living mostly in the north temperate zone. Lampreys inhabit both salt and fresh waters, but those of the sea ascend rivers and brooks to deposit their spawn on pebbly shallows, and great numbers die there. Most of them are plainly dark colored, but some of the fluviatile species are bluish or silvery, as the common one (*Ichthyomyzon concolor*), in the Upper Mississippi Valley and Great Lakes, which is about a foot long.

LAMPUSCUS, ancient Greek city of Mysia, Asia Minor, on the Hellespont and opposite Gallipoli. The modern village of Lapsaki is built on its site. The city was colonized by Ionian Greeks, possessed a fine harbor and was celebrated for its wine. It came under Persian rule during the Ionian revolt, but after the battle of Mycale, in 479 B.C., it joined the Athenians. After its defense against Antiochus the Great of Syria in 196 B.C. it became an ally of Rome. Lampusacus was the seat of worship of the nature-god Priapus.

LAMPTON, William James, American journalist: b. Lawrence County, Ohio; d. May 1917. He was educated in public and private schools and at the Ohio Wesleyan University and Marietta College; edited a newspaper at Ashland, Ky. (1887-88); was reporter for the Cincinnati *Times*, writer for the Steubenville *Herald* and the Louisville *Courier-Journal*, editor of the *Merchant Traveler*, Cincinnati, and was on the staff of the *Critic* and the *Evening Star*, Washington, and of the *Detroit Free Press*. He was also, after 1898, a special writer for the New York *Sun* and the New York *Herald*. In March 1910 he was appointed colonel on the staff of Governor Willson of Kentucky. He published 'Yawps and Other Things'; 'Mrs. Brown's Opinions' (1886); 'Confessions of a Married Man'; 'Tame Animals I Have Known' (1912), and 'The Trolley and the Lady' (1908). He was a member of the Poetry Society of America and the Author's League of America.

LAMSDORFF, läms'dórf, or LAMBS-DORF, Vladimir Nikolaevitch, Count, Russian statesman: b. Leningrad, 25 Dec. 1844 (old style); d. 20 March 1907. He entered the Foreign Office in 1866 and was continuously in service until his resignation in 1906. He became Assistant Foreign Minister in 1897 and Foreign Minister in 1900. He was likewise Privy Councillor from 1901; and in 1902 he was Secretary of State to the emperor. He was one of the framers of the Peking Treaty of 1900 which determined the future commercial relations of the two countries and stipulated that China should defray the costs involved in the suppression of the Boxer; and in his official capacity worked earnestly in 1903 to avert the Russo-Japanese War. He was successful in securing an amicable settlement with Great Britain when the Russian fleet by mistake fired on a British fishing fleet off Dogger Bank 25 Oct. 1904. He possessed all the Orders of Russia from 1898.

LAMSON-SCRIBNER, Frank, American botanist: b. Cambridgeport, Mass., 19 April 1851. He was graduated at the Maine State College of Agriculture in 1873; served two years as clerk to the secretary of the Maine State Board of Agriculture; and was an officer of Girard College (1876-84). In 1887 he was made chief of the section of vegetable pathology in the United States Department of Agriculture, and from 1888 to 1894 was professor of botany in the University of Tennessee, and director of the agricultural experiment station there 1890-94; chief of Division of Agrostology, United States Department of Agriculture, 1894-1901, and chief of the Insular Bureau of Agriculture, Philippine Islands, 1901-04. In 1889 he received from the French Minister of Agriculture the cross of the Chevalier du Mérite Agricole. He was in charge of exhibits of the United States Department of Agriculture at various expositions since 1904, including those at Saint Louis (1904), Portland, Ore. (1905), Jamestown (1907), Seattle (1909), Buenos Aires (1910), Turin, Italy (1911), the Dry Farming expositions at Lethbridge, Can. (1912), Tulsa, Okla. (1913), Wichita, Kan. (1914), Denver, Colo. (1915); appointed expert on exhibits by the Secretary of Agriculture (1913); and member of the Government Exhibit Board by the President for the Panama-Pacific International Exposition; director of exhibits for the United States Commission, Rio de Janeiro 1922-23. Among his writings are 'Weeds of Maine' (1869); 'Ornamental and Useful Plants of Maine' (1874); 'Agricultural Grasses of Central Montana' (1883); 'Revision of the North American Melicæ' (1885); 'Grasses of Mountain Meadows and Deer Parks' (1889); 'Philippine Agriculture'; 'Diseases of Plants' (1885-87); and papers on 'Grasses as Soil and Soil Binders,' and on 'Grasses and Foliage Plants,' including descriptions of many new species (1894-1900). He has also published 'The True Grasses,' translated from 'Die natürlichen Pflanzenfamilien' (1890).

LAMY, la'mě, Bernard, French philosopher and author: b. Le Mans, 1640; d. Rouen, Jan. 1715. He studied at the oratory at Le Mans and in 1658 entered that at Paris. From 1671-75 he was professor of philosophy at Sorbonne, and later taught at Grenoble and at Paris.

He was removed from Saumur because of his advocacy of the Cartesian philosophy; and he later had trouble over the publication of one of his books without requisite permission. He thereupon, in 1690, retired to Rouen, where he pursued his literary labors. His works include 'Nouvelles Réflexions sur l'art poétique' (Paris 1668; 2d ed., 1678); 'L'art de parler' (Paris 1670; 8th ed., 1757); 'Entretiens sur les sciences' (Grenoble 1683); 'De Tabernaculo fœderis, de sancta civitate Jerusalem et de Templo ejus,' a work of 30 years (Paris 1720), etc.

LAMY, Etienne Marie Victor, French author: b. Cize, Jura, 2 June 1843. He took his degree in law at the University of Stanislas in 1869, and from 1871-81 he served in the *se* of Deputies. He was elected to the *lemy* in 1905 and in 1913 became its *peral* secretary. His works include 'Le Tiers i, l'Assemblée nationale et la Dissolution' 2); 'Témoins des jours passés' (1909,); 'Au service des idées et des lettres' 9); 'Quelques œuvres et quelques ouvriers' 0, 1913), etc. He died in 1919.

LANARK, Scotland, a parliamentary, royal municipal burgh and the county town of Lanarkshire, 32 miles southeast of Glasgow. It is finely situated in romantic scenery; the *s* of Clyde are near by. The principal *inries* are weaving and shoemaking. Lanark is the scene of some of Wallace's exploits, it has interesting Roman and feudal remains. The race course is the scene of a famous Scottish meeting. New Lanark, about a mile off, was for 28 years (1800-28) the scene here noteworthy social experiments of Robert Owen (q.v.). Pop. of municipal burgh, 6,268.

LANARKSHIRE, an inland county in the northwest of Scotland, bounded on the north by Dumfries and Galloway, east by Lincolnton, Midlothian and Peeblesshire, south by Fife and Perthshire and west by Ayrshire and Renfrewshire. Area, 897 square miles. Holding the place in area of the Scottish counties, it contains one-fourth of the population of the country. It is almost entirely drained by the River Clyde and its affluents, and shows a remarkable diversity of aspect, bleak uplands, fertile orchards, busy coal fields and manufacturing districts. The surface rises toward the north, where the Leadhills reach an altitude of 403 feet. The Upper (or southern) Ward is chiefly composed of hill or moorland; the middle Ward is famous for its orchards and the Lower Ward has rich alluvial lands. Dairy farming is one of the principal agricultural industries. Lead-mining is carried on. It is the principal seat of the iron and coal trade of Scotland, with its numerous dependent industries, about 50 per cent of the coal mined in Scotland is raised in Lanarkshire. For Parliamentary purposes the county contains six divisions. The county town is Lanark (q.v.). Pop., including Glasgow, 1,588,300; exclusive of Glasgow, 1,000,000.

Lanarkshire, which has many interesting Celtic and Roman remains, was in ancient times inhabited by the Damnonii, a Celtic tribe. It formed part of the Saxon kingdom of Strathclyde, which in the 7th century was subdued by the Northumbrian Saxons, when great numbers of the Celts migrated to Wales. The county has stirring associations with the struggle for

Scottish independence; at Langside the fate of Mary, Queen of Scots, was settled by the defeat of her forces by the Regent Moray (1568); the Covenanters defeated Claverhouse at Drumclog in 1679, and were in turn defeated by the Duke of Monmouth at Bothwell Brig in the same year.

LANCASHIRE, lănkă-shēr, county palatine in England, bounded on the north by Cumberland and Westmoreland, on the east by Yorkshire, on the south by Derbyshire and Cheshire and on the west by the Irish Sea. Area, 1,880 square miles. It is somewhat flat toward the shoreline, but elevated in the north and east. Geologically, carboniferous limestone prevails in the north, old red sandstone on the coast. Wheat, oats and potatoes form the principal crops; and among its minerals the principal are coal, slate, paving stone, stoneware and fireclay. The great coal field occupies 400 square miles between the chief rivers, the Ribbles—the dividing line between the northern and southern parts of the county—and the Mersey. Iron is abundant in the Furness district, also famed for its ship-building. Its minerals, and especially its great cotton industry, have given it world-wide fame; and its other manufactures include worsted, wool, silk, machinery, glass and soap. Liverpool and Manchester are the principal cities. The capital is Lancaster. For Parliamentary purposes the county has 23 divisions. After the Norman Conquest, Lancaster became first an earldom and then a duchy, and since the reign of Edward IV it has been a Crown duchy and palatinate. Pop. 4,927,484, of which 4,000,000 are in South Lancashire.

LANCASTER, lăngkăst-ēr, Sir James, English navigator: b. about 1550; d. London, May 1618. He served under Drake against the Armada in the *Edward Bonaventure*. He commanded the same ship in the first English expedition to the East Indies (1591-94). The record of this voyage is one of perilous adventure, in which some Portuguese ships were captured, and a mutiny broke out in his own crew. Of the 200 who had doubled the Cape with him, but 25 returned to England. This voyage led to the founding of the East India Company, of which he was an original director. He captured Pernambuco in Brazil in 1594, and commanded the first fleet of the East India Company (1600-03). On his return home he was knighted. He did much to promote the voyages of Weymouth, Hudson and Baffin, in search of the Northwest Passage to India. The strait leading west from the north of Baffin Bay was in 1616 named Lancaster Sound by Baffin. He was the first of the navigators to use lemon juice as a remedy for scurvy, the virtue of which was afterward entirely forgotten for nearly 200 years. Consult his 'Voyages,' edited by Markham for the Hakluyt Society (London 1877).

LANCASTER Joseph, English educator, the founder of the educational system bearing his name: b. London, 25 Nov. 1778; d. New York, 24 Oct. 1838. Early awakened to religious impressions, he served as a naval volunteer and afterward joined the Society of Friends, and became deeply imbued with the educational needs of the poorer classes. In 1798 he opened a school for children in Southwark,

which he conducted on the Madras system, previously developed by Andrew Bell (q.v.). The principal features of the system were the teaching of the younger pupils by the more advanced students, called monitors, and an elaborate system of mechanical drill, by means of which these young teachers taught large numbers at the same time. Although his schools were opposed by the established church as subversive of its monopoly, he soon found powerful support, and in 1805 was teaching 1,000 children. With the number of his patrons and the amount of subscriptions continuing to increase, he founded a normal school for training teachers in his system.

Lancaster made extensive tours through Great Britain and Ireland, and in 1811 had founded 95 schools, attended by 30,000 children. He was somewhat unbusinesslike and improvident in his habits, became bankrupt, and in 1818 emigrated to America, where schools were founded on his model in New York, Philadelphia, Boston and Baltimore. Afterward he attempted to set up a school in Montreal. His family subsequently moved to Mexico, where his grandchildren, bearing the name Lancaster-Jones, became prominent politically. See also LANCASTERIAN SCHOOLS.

LANCASTER, town, California, in Los Angeles County, about 45 miles north of Los Angeles in the Antelope Valley section of the Mojave Desert, on U.S. Highway 6 and the Southern Pacific Railroad. Located in an irrigated agricultural area, the town is a trading center and manufactures alfalfa meal and concrete pipes. Chief crops are alfalfa, sugar beets, and grain.

Situated in Lancaster is the Antelope Valley Junior College which serves the surrounding region. In 1950 the town was unincorporated. Pop. (1950) 3,594.

LANCASTER, municipal borough, England, a seaport and county town of Lancashire, on the south bank of the Lune River where it becomes tidal 12 miles from the sea, and 20 miles north of Preston. The silting up of the estuary with sand has made the port inaccessible for large vessels, but a dock has been built at Glasson, five miles distant, where ships transfer their cargoes to lighters. Principally an industrial community, Lancaster manufactures linoleum, rayon and other textiles, carpets, and agricultural machinery.

Lancaster is noted for its medieval castle, built by the Normans about 1170 and largely rebuilt in later times, and the 15th-century church of St. Mary's. It also has a magnificent town hall (1909), the gift of Lord Ashton, technical and art schools, and a fine public park.

A Roman station in early times, Lancaster received its first town charter in 1193 and did not become a city until 1937. Gas, water and electric utilities are municipally owned, as are the slaughter houses, baths, markets, and cemeteries. Pop. (1951) 51,650.

LANCASTER, city, Kentucky, seat of Garrard County, 31 miles south of Lexington in the Bluegrass agricultural region, producing burley tobacco, corn, wheat, and hay. Altitude 1,032 feet. It is served by state and federal highways and the Louisville and Nashville Railroad. Industries include the manufacture of work clothing and flour and feed mills. Hooked rugs

are made and sold by women of the community. Among the notable points of interest are Kennedy House where Harriet Beecher Stowe is said to have visited while gathering material for *Uncle Tom's Cabin*, and Gilbert's Creek Meeting House, the first Baptist Church in Kentucky.

The community was named after Lancaster, Pennsylvania, when pioneers from that locality settled here in 1798. Pop. (1950) 2,402.

LANCASTER, town, Massachusetts, in Worcester County on the Nashua River and the Boston and Maine Railroad, 15 miles north-northeast of Worcester. Altitude 277 feet. A residential town with no industries, it is surrounded by a hilly and wooded terrain with farms and orchards producing staple crops, such as corn and wheat, potatoes, hay, and apples. The Old Meeting House, on the Common, was designed in 1816 by Charles Bulfinch and is noted as one of the best examples of his work. Lancaster is also known as the birthplace of Luther Burbank and for the Thayer Bird Museum, which houses a fine collection of North American birds and eggs.

Settled in 1643, Lancaster was incorporated as a town in 1653 and includes South Lancaster Village (pop. 1,462), where the Atlantic Union College (Seventh Day Adventist) is located. The town was several times raided and once destroyed by the Indians. The government is administered by a board of selectmen. Pop. (1950) 3,601.

LANCASTER, town, New Hampshire, seat of Coos County, 115 miles north of Concord on the Connecticut River at the mouth of the Israel River and served by state and federal highways and the Boston and Maine Railroad. Altitude 887 feet. It is an attractive summer resort and winter skiing center. Industries include dairying, lumbering, and the manufacture of furniture, drugs, and chemicals.

The town is administered by a board of three selectmen, one elected each year. The water supply is municipally owned. There is a public library, hospital, and community center, the latter made possible through the Col. F. L. Town endowment fund. Pop. (1950) 3,113.

LANCASTER, village, New York, in Erie County, 8 miles east of Buffalo and 9 miles from the state barge canal on U.S. Highway 26 and the New York Central, the Lackawanna, the Erie, and the Lehigh Valley railroads. Altitude 700 feet. A residential suburb of Buffalo it manufactures steel, wool, and glass products, aircraft parts, and machinery. Other industries include stone quarrying and dairying. A public library service and Como Lake Park, with many recreational facilities, are maintained by the community.

Lancaster was settled in 1810 and received its charter in 1849. Its government is administered by a mayor and council. Pop. (1950) 8,665.

LANCASTER, city, Ohio, seat of Fairfield County, 26 miles southeast of Columbus on the Hocking River, state and federal highways, and the Chesapeake and Ohio and the Pennsylvania railroads. Altitude 844 feet. Lancaster lies at the head of the Hocking Valley which is rich in gas, oil, coal, and clays. In 1890 the town built a plant for the municipal supply of n

gas, which, with the coming of the railroads and the canals, played an important part in the community's industrial development. The principal manufactures of Lancaster are table glassware, dry-cell batteries, gas meters, paper products, oil well machinery, and other machinery products. Two public libraries, 9 public parks, and a radio station serve the community.

In 1800 Ebenezer Zane (1747-1811), an American pioneer, was granted a section of land on the Hocking River and organized a settlement there, which was named New Lancaster because so many of the settlers came from Lancaster, Pennsylvania. The name was changed to Lancaster in 1805. As early as 1806, when the town consisted solely of log cabins, it was the seat of Fairfield County. Incorporated as a village in 1831, it became a city in 1851. Lancaster has a mayor-council form of government. Pop. (1950) 24,180.

LANCASTER, city, Pennsylvania, seat of Lancaster County, 65 miles west of Philadelphia on state and federal highways and the Reading and the Pennsylvania railroads. Transcontinental air service is available at the modern municipal airport. Altitude 369 feet. The county is one of the richest agricultural regions in the United States. Among its leading farm crops are tobacco, wheat, corn, dairy and poultry products. In the city are located the largest stockyards east of Chicago. Lancaster manufactures cork products, linoleum, television tubes, watches, farm machinery, boilers, silk goods, tools, toys, food products, jewelry, and cigars.

Lancaster has a large public library, 3 hospitals, 8 public parks, a tuberculosis sanitarium, a state armory, 2 radio stations, and a television station. It is the seat of Franklin and Marshall College, the Theological Seminary of the Evangelical and Reformed Church, 2 private schools, a watch-making school, and the Thaddeus Stevens Industrial School (for orphan boys), provided by the will of Thaddeus Stevens, who had his home at Lancaster. Among the many points of interest and historical landmarks in and about Lancaster may be mentioned Wheatland, the home of President James Buchanan, and the Old City Hall (1795), a three-story red brick building restored in 1927.

Lancaster and York were named for the two ruling houses opposed to one another in the War of the Roses. They are 24 miles apart and separated by the Susquehanna River. The site of Lancaster was originally settled in 1718 and named Hickory Town, but received its present name 11 years later, when a prominent citizen by the name of John Wright, having been given the privilege of naming the town, selected Lancaster, after his original English home town. The community became a borough in 1742, was incorporated as a city in 1818, and adopted a commission form of government, with a third-class city charter, on Jan. 1, 1926. Pop. (1950) 63,774.

LANCASTER, town, South Carolina, seat of Lancaster County, 21 miles southeast of Rock Hill on state and federal highways and the Southern and the Lancaster and Chester railroads. Altitude 547 feet. It is a shipping and trading center of a farming district growing cotton, tobacco, alfalfa, corn and other grain, and raising livestock. The town has cotton mills, machine

shops, cottonseed oil mill and fertilizer plant, lumber yards, and brick and tile works. The community has a city-manager form of government. Pop. (1950) 7,159.

LANCASTER, city, Wisconsin, seat of Grant County, 13 miles west-northwest of Platteville, on state and federal highways, and the Chicago and Northwestern Railroad. Located in a livestock and dairy farming area, the community manufactures canned foods, beverages, and veterinary remedies. It was settled before 1840 and incorporated in 1878. A mayor and council administer the government. Pop. (1950) 3,266.

LANCASTER, House of, a name given in English history to designate the line of kings—Henry IV, V and VI, immediately descended from John of Gaunt, fourth son of Edward III. Edmund, second son of Henry III, was created Earl of Lancaster and Leicester. His son Thomas added Derby and Lincoln to his titles, became leader of the baronial opposition to Edward II and was beheaded for treason. His grandson was advanced to the dignity of a duke and, dying without male issue, the inheritance fell to his daughter Blanche, heiress of Lancaster, who became the wife of John of Gaunt, who in 1362 was created Duke of Lancaster. His elder brother Lionel was created Duke of Clarence, and his younger brother Edmund of Langley was created first Duke of York (1385). Thus two brothers founded the rival houses of Lancaster and York. Henry IV, son of John of Gaunt, deposed Richard II, son of the Black Prince, usurped the crown, and was succeeded by his son Henry V. Henry VI's long minority and weak rule culminated in the Wars of the Roses (q.v.), the contest being concluded by the union of the two houses in the marriage of Henry VII, the Lancastrian heir, with Elizabeth, eldest daughter and heiress of Edward IV, of the House of York. See also ENGLAND.

LANCASTER SOUND, an outlet of Baffin Bay, connecting it with Barrow Strait. This opening into the Arctic Ocean was discovered by William Baffin in 1616 and was named in honor of Sir James Lancaster but it was first navigated by Sir William Parry in 1819. Only part of it is navigable each season.

LANCASTERIAN SCHOOLS. The founder of these schools was Joseph Lancaster (q.v.) who opened his first school in Southwark, London, in 1798 in order to provide educational facilities for the poor. Operating on a modified plan of the monitorial system of Andrew Bell (q.v.), this school was soon very successful and became the model for several educational experiments in the United States.

In 1805, the legislature of New York incorporated an organization known as "a society for establishing a free school in the city of New York for the education of such poor children as do not belong to or are not provided for by any religious society." One of the prime movers in the organization of this school was DeWitt Clinton. The first school opened by this society was in 1806 and the Lancastrian system was put in operation in that school. The dominant influence in this society was that of the Friends and as Lancaster's school in London was non-sectarian and had been sup-

ported by the Friends it was natural that this society should adopt the Lancaster type of school. The name of the society was later changed to Public School Society and continued its operations for nearly 50 years or until 1853 when it was merged into the public school system of the city under the control of the board of education. More than 60 schools had been established and in each of these during their entire history the Lancastrian system was in operation. While the Lancastrian schools will always be associated with the Public School Society of New York City, such schools were very generally organized in the northern and eastern parts of the United States. He attempted the organization of an institution in Baltimore under his own direction known as Lancastrian Institute. Little is known of this institution except that it was a failure. He also organized a model Lancastrian school in Philadelphia. Outside of New York city these schools were not a factor in public education for a longer period than 20 years and gradually disappeared after 1830. A fine school building administered under the Lancastrian plan was erected at Albany in 1812 and still stands on Eagle street one block south of State street and is owned and occupied by the Albany Medical College.

The most distinguishing feature of the Lancastrian schools was the employment of monitors. One teacher with the assistance of monitors would give instruction to 500 and often to 1,000 pupils. The monitors were chosen from the pupils in the school. The pupils who were regarded by the master as the best students in the advanced classes were selected. They were generally allowed their tuition for the services rendered and sometimes were paid a shilling or two per week. A monitor was charged usually with the instruction of 10 younger pupils. He sat on a high stool or raised seat at the end of a bench on which his pupils were seated. These monitors were very often divided into two classes—general monitors and subordinate monitors. They were called monitor-general of reading, monitor-general of writing, monitor-general of arithmetic. The subordinate monitors were called assistant monitors or simply monitors of reading, monitors of arithmetic, monitors of writing, etc. Each monitor wore a badge or ticket usually made of leather and on this was printed the title of the monitor and his rank.

The curriculum in these schools consisted almost wholly of instruction in reading, writing, arithmetic and morals or religion. Instruction in science and in English grammar was added to the course of study in the schools of New York City during the later years of their existence. The teaching was wholly mechanical. The sole effort of instruction was aimed at imparting information and developing the memory. There was an absolute lack of effort to arouse the child's powers of observation, to stimulate the exercise of his own mental attainments and to develop him into a reasoning, thinking being. Much of the instruction was given by dictation and by the use of formal questions. This was necessary under the monitorial system because the monitors did not possess sufficient education to give independent instruction. Sand tables were used for the children in the younger classes. Boards

containing the letters of the alphabet—small and large—were posted in the schoolroom. The alphabet wheel was also largely used. This was arranged so that a wheel adjusted to a standard might be turned in such a way as to show consecutively the letters of the alphabet. When a letter was exhibited the child from dictation traced the letter in the sand or on a slate. Children who had not received instruction were placed beside those who had received instruction, so that the latter might aid the former. This process of teaching the alphabet was tedious and required from one to two years to enable the child to "learn his letters." This process was termed a "very intellectual method of teaching the alphabet." Writing was of course taught in connection with the reading. When a pupil had learned his alphabet he was promoted to the class in monosyllables and was taught b-a spells ba. Arithmetic was taught under the same general plan. The subject included the four fundamental processes. The pupils were first taught to copy figures from the blackboard. The monitor would write a column of figures on the blackboard and the first pupil would read aloud as, "3 and 4 are seven and 5 are 12 and 7 are nineteen and 6 are twenty-five, put down 5 and carry 2 to the next." If the first pupil made an error in this addition the pupil who discovered it took rank over the one who made the error. As pupils became proficient in arithmetic they were promoted in that subject independently of their proficiency in other subjects. They were promoted in each subject on the same basis. Here was the idea of the modern departmental system of school organization. Teachers of today and even the layman in education will understand the general defects of the Lancastrian system of instruction.

The principles upon which Lancaster founded his schools were sounder than his plan of organization or his systems of instruction. He declared that all children were entitled to an education and that the good of society required that they should be educated. He accordingly held that it was the obligation of a nation to provide school facilities for all children who would not otherwise be accorded such privileges. He also opposed the action of any church in attempting to compel children not members of such church to attend its schools. He regarded such action as the infraction of a most sacred personal right. These fundamental principles of public education were sound and conform to the general principle now accepted wherever public schools are maintained that "education is the function of the state."

Lancaster made extended use of mottoes which were posted conspicuously in the schoolroom, on cards or boards, and which were also made the subject of classroom instruction. Some of these were as follows: "A place for everything and everything in its place." "Let every child at every moment have something to do and a motive for doing it."

One of the first agencies in the country for the training of teachers was the Lancastrian schools. The annual report of 1814 of the society for establishing a free school in New York, states that from its beginning (1806) one of its great objects of interest has been to train teachers. In 1818 Charles Picton, a trained disciple of the Lancastrian system, was

brought from London to take charge of a public school in New York City. The training of teachers which had already received attention was given prominence and the trustees announced that they would gratuitously train teachers for this system in six or eight weeks. Lancaster did not approve this limited training and referred to it as preparing "mush-room teachers." The plan of training teachers in New York City was later improved and the course extended to include more advanced instruction. The work of these schools in training teachers was no more effective than the instruction which the schools provided for the children.

Lancaster was opposed to the rod as a disciplinary agency. His ideas on this subject are represented in the following statement: "The guillotine in France, during the Reign of Terror, and the rod in the hands of the advocates of ignorance, are alike." DeWitt Clinton stated in relation to the discipline of these schools, "The punishments are varied with circumstances, and a judicious system of rewards, calculated to engage the infant mind in the discharge of its duty, forms the keystone which binds together the whole edifice." Rewards were offered for meritorious conduct and fines were imposed for breaches of discipline. These were arranged on an elaborate scale through the issuance of tickets; some of the common modes of punishment were as follows: placing wooden log weighing from three to eight pounds around the pupil's neck; putting wooden shackles on the legs of a pupil and compelling him to walk around the room, putting the hands behind the back and tying them with wooden shackles, tying the legs together, detention after school hours, placing a label on a pupil which specified his offense, compelling a pupil to wear a tin or paper cap or a soldier's coat, giving an indolent boy a cart or a blow. It is suggested in the manual that boys could be rocked in a cradle.

In the year 1818, Lancaster came to the city of New York. He was received as a distinguished guest of honor. He was welcomed on behalf of the city by the recorder and the mayor and on behalf of the State by Governor Clinton. The governor invited him to Albany and there introduced him to the leading men of the State. He then visited the city of Philadelphia and was there received with unusual honor and distinction. From Philadelphia he went to Washington where the House of Representatives passed the following resolution: "That Joseph Lancaster, the friend of learning and of man, be admitted to a seat within the hall."

Clinton gave the Lancasterian system his unqualified approval and through his great influence the system was readily adopted in every city in the State of New York. Clinton said of him, "I recognize in Lancaster the benefactor of the human race. I consider his system as creating a new era in education, as a blessing sent down from heaven to redeem the poor and oppressed of this world from the power and dominion of ignorance." One of the governor's official acts was to recommend the enactment of law authorizing the supervisors of county to raise \$2,000 for the establishment of a monitorial high school in each of the State.

This system did not provide a sound system of public education. It became established in certain parts of the country, notably in New York City, and delayed the establishment of a sound, practicable, efficient system of education in such places for several years. Its adoption not only throughout the United States but in England, Holland and Germany was due largely to the claim of its friends that "one teacher could instruct one thousand pupils." Its trial throughout the world for a period of 25 to 50 years shows the lack of appreciation of a sound, scientific system of education which existed not only in America but abroad in the formative period of our national government.

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LANCE, George, English painter: b. Dunmow, Essex, 24 March 1802; d. Birkenhead, 18 June 1864. When less than 14 years old he entered the studio of Haydon in London and remained a pupil there for seven years, also studying at the Royal Academy. He began to exhibit in 1824 and is best known as a painter of flowers, fruits and game, but occasionally produced historical and genre work. He exhibited 135 pictures at the British Institution, 48 at the Society of British Artists and 38 at the Royal Academy. His work may be seen in the National Gallery, the South Kensington Museum and the Tate Gallery. Among his pupils were Sir John Gilbert and William Duffield.

LANCE, a weapon consisting of a long shaft, with a sharp point, much used before the invention of firearms and still in use. It was common among the Greeks and Romans. Frederick the Great formed an entire regiment of lancers. The Austrians followed and soon established three regiments. After the partition of Poland, many Poles entered the French service and a body of Polish lancers was established. The war with Russia, in which the efficiency of the lance in the hands of the Cossacks, particularly in 1812, was strikingly manifested, brought this weapon into still more repute, and the Prussians formed three regiments. The French lancers were formed in 1813 to cope with the Cossacks. Almost all the armies of Europe have regiments of lancers: the Cossacks of the Ural, the German Uhlans, the independent cavalry of the French dragoons, the first regiment of each division of Turkish cavalry and the Bengal native cavalry are armed with the lance, as are four Belgian and six British cavalry regiments. This arm is not in use in the United States cavalry. The weapon is from 8 to 11 feet long and is made of oak, bamboo or (in the case of the Uhlans) of tubular steel. It has long been a subject of debate whether the lance or sword is the more effective cavalry weapon; its execution is most deadly in the pursuit of a fleeing enemy.

LANCELET. See AMPHIOXUS.

LANCELOT OF THE LAKE, a name celebrated in the traditions relating to King Arthur or the Round Table. Lancelot was the son of Ban, king of Brucic, and after his father's death was educated by Viviana (the Lady of the Lake). She took him to the court

of King Arthur, to make him one of his knights, and to admit him to the heroes of the Round Table. Arthur with his sword (*Escalibor*) dubbed him knight, and Lancelot subsequently distinguished himself by his great heroism. His love for Guinevere, the wife of Arthur, and his disregard of Morgana, a fairy, and the sister of Arthur, placed the knight in the most dangerous situations, from which, however, he always extricated himself. He finally succeeded to the throne, after having defeated King Claudas, the murderer of his father, but was slain by Mordred, the murderer of Arthur, whom Lancelot wished to punish. In his last moments Viviana appeared and kissed the last breath from the lips of the dying hero, the sole survivor of the Round Table. His remains were deposited near those of Guinevere.

LANCER, a soldier of the European light cavalry, carrying the lance as a weapon. The use of the lance is of mediæval origin although in later European warfare the Cossacks originally used the lance; it was not introduced into regular army regiments until Napoleon made use of it. Lancer regiments have since been incorporated in most European armies. The Prussian regiments so armed are designated Uhlans, while the Cossacks retain their original name with the weapon. There are no lancer regiments in the United States army. The lancer regiments were used effectively in the early stages of the European War, but trench warfare interrupted their usefulness, together with that of other cavalry divisions. The lancer regiments are most useful when the enemy infantry is in retreat, the effect usually being demoralizing.

LANCET-FISH. See **SURGEON**.

LANCET WINDOW, a high and narrow window with an arch acutely pointed, resembling a lancet in form. This form of window structure was characteristic of the first half of the 13th century and remained in use in England and Scotland long after the French had perfected the geometric forms. They were often built double or triple and in some instances more than three windows are used together, as in the case of the Five Sisters at York Minster. The groups at Ely and Salisbury are excellent examples of the double and triple types. In the lancet groups the central arch may be higher although this is not invariable.

LANCEWOOD, the wood of a West Indian tree (*Bocagea virgata*), of small or moderate size, but of great usefulness and value, possessing in a high degree the qualities of toughness and elasticity. It is well adapted for the shafts and poles of light carriages, and for all uses where light, strong, elastic timber is required. Both in strength and elasticity it is considered superior to the best ash. The name is also applied to the trees themselves, as well as to several other trees and their wood.

LANCHOW, lān'chou, China, capital of the province Kansu, on the right bank of the Hoang-ho and near the Great Wall of China. It is one of the most important cities of interior China, due in part to its situation at the junction of the trade routes to Turkestan, Tibet and Mongolia. The streets of the city are paved with stone, although the buildings are chiefly of wood. The important manufactories are those

of woolen and camels' hair goods and ammunition, while a large trade is carried on in silks, silver and jade ornaments, fur, wood-carvings, tin and copper wares, grain, vegetables, fruit and tea. The population is variously estimated around 125,000.

LANCIANI, lan-chiā'nē, **Rodolfo Amedeo**, Italian archæologist: b. Rome, 1 Jan. 1847. He received his education at the Collegio Romano and the University of Rome, and in 1878 was made professor of Roman topography in the latter. He attained celebrity by his investigations among the ruins of Rome, is the author of upward of 400 archæological or historical publications, and was a member of many learned societies and a senator of the kingdom of Italy. In 1887 he gave a course of lectures at Harvard University, afterward published with the title 'Ancient Rome in the Light of Recent Discoveries' (1888). Other works of his are 'L'Itinerario di Einsiedeln e l'Ordine di Beneletto Canonico' (1891); 'Pagan and Christian Rome' (1893); 'The Ruins and Excavations of Ancient Rome' (1897); 'Forma Urbis Romæ' (1893-1901), a map of Ancient Rome in 46 sheets on a scale of 1:1000; 'New Tales of Old Rome' (1901); 'Golden Days of the Renaissance in Rome' (1906); 'Wanderings in the Roman Campagna' (1909); 'Ancient Roman Churches' (1927). Died, 21 May, 1929.

LANCIANO, lan-chiā'nō (ancient *Aux-ANUM*), Italy, city and episcopal see in the province Chièti, eight miles from the Adriatic and 12 miles southeast of Chièti. The city is built upon three hills, two of which are connected by a Roman bridge, and is 984 feet above sea-level. It has an imposing cathedral, with a clock-tower built in 1619. There is a Gothic church erected 1227, and there is a fine rose window, 1362, in the church of the Annunziata. It is the seat of an archbishop, whose palace is built upon the remains of an old Roman theatre. The ancient city was a judicial and civic headquarters under Roman occupation. The modern city has schools, a hospital, gymnasium, library and other progressive institutions. The trade of the city is concerned largely with the products of the surrounding country, silk, wine, oil, fruits and grain, and there are linen and hemp factories. Pop. (commune) 19,917.

LANCRET, lān'krā, **Nicolas**, French painter: b. Paris, 22 Jan. 1660; d. there, 14 Sept. 1743. He studied under D'Ulin and later under Gillot who had taught Watteau. Lancret's style was largely influenced by Watteau, for whom he had a great admiration, and while his productions never equalled those of his model, he did excellent work in the portrayal of the gay scenes of the court under the Regency. More than 80 of his paintings have been engraved and the total of his work is immense. He was admitted to the Academy in 1719 and in 1735 he became a councillor. The National Gallery, London, has four of his paintings, 'The Four Ages of Man'; the British Museum has an excellent series of drawings done in red chalk; there are 28 of his paintings in the royal palaces at Berlin and Potsdam, these being purchased by Frederick the Great; there are six in Petrograd, and numerous others in collections, public and private. Consult d'Argenville, 'Vies des peintres,'

and Ballot de Sovet, 'Éloge de M. Lancret' (1843; new ed., 1874).

LAND, in Political Economy. In economic theory as in social fact, land holds a peculiar position, by which the laws normal to other industrial objects are deflected. Foremost is the fact that, it being an indispensable *locus* for all industry or even social existence, its price or rental in a community where all the land is taken up is non-competitive, a monopoly which is also a *sine qua non*, as would be that of air or water, and consequently is always higher than its productive value justifies, or what is the same thing, men are content to receive a less return on their capital invested in it than in any other object. This is of course aggravated in countries where, as in England before 1832, all political privileges are annexed to it, the richest manufacturer having no vote unless he bought land and became a freholder; less so, but still heavily, in England at present, where it and its tenantry confer great social and political prestige; but most of all in societies like the south of Ireland where there is practically no industry but agriculture, and a footing on the soil at some terms is the one refuge from starvation. Farms there in former days were bid for on occasion at 10 or a dozen times the gross annual produce, because there are no degrees in impossibility, and they could not in any event be deprived of a bare coarse subsistence. But the only countries in which it is on an economic level with other objects are those like America, where there has been an inexhaustible abundance of land to be had at about the cost of surveying and registering title; and here it has been the economic regulator of other prices and wages, which cannot fall below the profit of free agriculture.

The economic discussion over land in England, where freeholds are very difficult to acquire, naturally took the form of an investigation of the phenomena of Rent (q.v.); and an important part of the first economic philosophies was based on a theory of the origin and mutations of the rent charge. According to them it could only exist where there were different grades of soils, and represented the difference in profit of farming better ones over that of farming those just sufficient to make their utilization worth while. In fact, however, even if all soils were alike, rent would still be paid for their hire if the labor and capital could produce more than the rental. Another principle early formulated, differentiating the working of land from other industries, was that of diminishing returns: it was said that labor and capital in any other field produce in exact proportion to their volume, whatever that be,—10 times the investment producing 10 times the return,—whereas upon the land it is manifestly not so; extra labor produces but a small and rapidly dwindling accretion to the product, till it soon ceases to produce any. Here again there was imperfect observation: two plowings or hoeings would not produce double the crop of one, but double the outlay invested in manures or other fertilizers, loads of loam, etc., often produce very much more than a proportionate extra return. The real difference is, that in other industries the extra outlay can be applied in exactly the same channels, in land it must seek different ones.

Land in this sense refers purely to land used

for raising food; where it has other uses, it is subject to the general laws of industry. Land, for instance, on which is located a water-power for manufacturing, or mineral land, if for sale, follows the usual mercantile conditions.

The subject of land belongs under Land Laws; of the single tax, under Taxation; of land nationalization, under Socialism, it being a branch of the question how far it would profit the country to place the entire social machinery under elected instead of self-determined managers; of agrarian difficulties, under the special branches of history concerned—the Roman agrarian contests, for example, shed little light on and are little illumined by the system of peasant distribution in France or the Irish land laws, with its changes from feudal to dual and finally to occupying ownership. See PUBLIC LANDS.

LAND BANKS. See FEDERAL FARM LOAN ACT.

LAND BANKS, Massachusetts. Early in the 18th century Massachusetts paper currency had driven abroad nearly all her coin, broken her credit and demoralized her business, and the failure of the Quebec expedition in 1711 carried the embarrassment to a climax. Encouraged by the success of the South Sea scheme in England, some Boston merchants induced the General Court to make the bills of credit of the province legal tender for debts of seven years previous and three years subsequent. Besides this, a number of notable men, including Peter Faneuil, devised the scheme of a bank whose resources should rest on real estate mortgages, to make loans of its own notes; to encourage subscriptions it was proposed that Harvard College should have \$1,000 a year out of the proceeds. Governor Dudley opposed it strongly; his son, the Attorney-General, memorialized the General Court against it, and the latter forbade them even to print their scheme till they had laid it before the court, which then refused to incorporate it. To ward it off and produce the same result, at Dudley's suggestion a public bank was founded, with a capital of \$250,000 provided by the General Court, to lend bills of credit for five years at 5 per cent, one-fifth to be repaid each year, the whole secured on real estate mortgages. In 1739, with the bad state of the finances increased by the still worse state created by the paper money of Rhode Island, and silver rated at 27 to 1, the project of a land bank was again brought forward. Several hundred persons were to form it; notes were to be issued up to \$750,000, the security being a mortgage on each partner's real estate in proportion to his holding, or sureties also possessed of sufficient estate, and each partner paying 3 per cent on the loans made him, in bills or in kind, at a rate fixed by the directors. The House of Representatives was largely favorable, but Governor Belcher denounced it as tending to fraud, disturbance of order and confusion of business, and he set aside the election of the speaker and nearly half the council for connection with the bank, besides displacing many office holders. Despite this, the company began operations, expecting that the notes would circulate readily. They were mistaken: not over \$300,000 were issued. But in 1741 Parliament not only extended to the colonies an act forbidding the issue of bills not payable in coin at the end of the term, but made the directors liable to the

holders of the bills for their face with interest. As a large part of them had been issued at a discount, the partners (though many had little to lose) were threatened with ruin, and Parliament had to permit relief measures. One of these partners, who lost all his property, was the father of Samuel Adams.

LAND OF BEULAH (Isaiah lxii, 4), the name of Israel when it shall be married. In 'Pilgrim's Progress' Bunyan uses the term to designate a resting place "where the sun shineth night and day" and where the Pilgrims remain until they cross the river Death to the Celestial City.

LAND BOUNTY. See BOUNTIES.

LAND-BRIDGES ACROSS THE OCEANS. One of the most attractive studies in geology is that of the change in form of the continents, and in the relative spaces of ocean, especially since the continents assumed their present general shape, and especially since the beginning of the Age of Mammals, or Tertiary Period,—that geological period which closed with the Glacial Epoch.

It is plain that during this period millions of years long, many changes occurred in the level of the lands of the globe. Sometimes one or the other of the great masses was lifted, until a much larger expanse of land was out of water than before; then again it would sink until the sea overran broad areas. Geologists know this from the fact that they find rocks which were evidently formed under salt water. By their characteristic fossils, and by other marks, they know where these rocks belong in the scale of geological succession, or time; and by plotting them on a map they can show approximately the shape any continent had at some long-past time. Of course this may not be done for any stage you may ask for, but it can for some of them. Thus in the early part of the Tertiary, while both Americas were in much their present condition, only broader in Canada, Europe was an archipelago of large islands, separated from Asia by a broad sea, and the Mediterranean extended over the Saharan deserts, leaving central and southern Africa as an island. All Persia, Syria and Arabia were then under water, so that the cold Arctic Sea flowed through into the Indian Ocean, which must have made the climate of India and East Africa very much cooler than now.

The most interesting feature of these changes, however, is that by which, now and again, the Old World was connected with the New by necks or spaces of land, known as "land-bridges"; especially as these permitted an interchange of plants and animals, giving to us many new ones from the other side of the ocean, including, finally, man himself.

No more fascinating department of natural history exists than the study of the distribution on the earth of living beings, past and present. A striking result of this study is the knowledge that, while the continents and great islands of the southern hemisphere differ from each other, and from the northern hemisphere, in their plants and animals, the several parts of the northern hemisphere are closely similar in this respect. The same families of trees—pines, spruces, cedars, oaks, maples, chestnuts, birches and so on; and the same sorts of animals—quadrupeds, birds, fishes and insects—are

found in Europe and northern Asia as in North America. In fact, many of the living species are virtually identical in all three regions. It is hard to separate the Canadian marten from the Russian sable, our big-horn from the Himalayan argali, our moose and caribou from the elk and reindeer of Norway; and some, like the polar bear, fox and wolf, the raven, golden plover, crossbill, bank-swallow and others, are quite alike in both the Old and the New Worlds. This has been so, judging by the fossils in the various Tertiary strata, ever since the Age of Reptiles.

What is the explanation? None of these animals, save possibly certain birds or fishes, could get across an ocean. They must have been able to travel upon land, and it is from their presence that it seems certain that land-bridges have existed, at various times in the past, between the northern parts of America, and Europe and Asia.

Let us pause here a moment to note what North and South America have to show on this point. South America possesses a fauna which is peculiar to itself. Several large groups there are not represented in any other part of the world, and nearly all its animals in every class, are different from those elsewhere. The fossils show that the same was true in the far past; so that it looks as if that continent has been isolated ever since its life began—only Australia is more self-supplied.

But if South America has always been cut off from the rest of the world (except from North America, at times), where did it get its marsupials? These were numerous there in Tertiary times, and big and little opossums still remain. The only answer is a supposition that at a period when mammals and birds were just beginning to take distinctive form in a world mainly reptilian, both the Australasian islands and South America were attached to an Antarctic continent then far broader than now. An elevation of 10,000 feet above the present level would expose dry land far beyond the Antarctic Circle and include Australia, New Zealand and Patagonia in a South-polar continent; and there is other evidence that such an "Antarctica" existed in Cretaceous and Paleocene times, and that its borders, at least, had a temperate climate.

It is supposed, also, that at the same time, and somewhat later, Brazil and Africa were connected by a ridge, or a chain of islands, since it is hard to account otherwise for the presence of monkeys in South America, which first appeared there in Miocene time, or for certain rodents like those of South Africa. Furthermore, the Atlantic is comparatively shallow and island-studded even now in that narrow part.

Let us return now to North America and its oceanic bridges. These appear, from the data given in the works of Professors Osborn and Scott, to have been repeatedly established and destroyed by alternating elevations and depressions of the land and the sea-bottom, both before and during the Age of Mammals.

At the beginning of the Tertiary Period, continuous land encircled the North Pole. That this would require no very startling change from the present level may be seen by looking at a chart of the northern oceans. This shows

that a broad space extends from Scotland to Greenland, where the water is nowhere more than 1,000 fathoms deep; and that the central part of this is a wide, winding plateau, named Wyville Thomson Ridge, which at the present time comes within 300 or 400 fathoms of the surface. Therefore an uplift of the bottom of the north Atlantic of less than 2,000 feet would extend our coast beyond Greenland and the Banks of Newfoundland, include the British Isles within Europe, drain the Baltic and North seas and connect the two continents by a neck of dry land about 300 miles wide in its narrowest part. There also would appear, probably, a second line of dry land about on the 80th parallel. Both of these, in the warm climate of the early Tertiary Period, would speedily have become covered with vegetation and attract and sustain wandering animals.

On the Pacific side, such a rise would drain nearly the whole of Bering Sea and join Alaska to Siberia by a stretch of mountainous land a thousand miles in breadth. Even 500 feet of uplift would now close Bering Strait.

A moment's thought will show one that a decided, if slow, alteration in the climate of all northern lands must have followed the elevation of these "bridges." The Arctic Sea would then be confined to its own basin, and unable to pour its icy currents into either the Atlantic or the Pacific Ocean. Hence the warm Gulf Stream and its Oriental counterpart, the Japan Current, would, and must, follow a solid coast right around to Europe and western America, respectively, without interference by any cold currents from the north, as at present; and so the whole ocean must have been warmer than now. Hence, we find in the northern coast-rocks of that period remains of tropical sea-animals which could not exist in waters as cold as those of the present day. At the same time solid land extended much farther toward the North Pole than at present, warding off Arctic influences to some extent.

All these circumstances, with others, produced a warm climate in the earlier half of the Tertiary, so that, as the fossil plants of that time show us, tropical conditions prevailed in the United States, and even southern Greenland must have had weather in summer like that of Maryland, for it was clothed with similar plants and hardwood trees.

One may ask: What is the evidence that enables geologists to speak so confidently of the existence of these "land-bridges," since nothing is left of them? It is this:

In the older layers of North American Eocene rocks, all the fossils are of animals peculiar to this continent — families and species which had developed here alone. In the next later layers, however, races of animals suddenly appear, for which no American ancestors can be found, but which are identical with those of the Old World of that time. None of these is much like any present creatures, of course, but the similarity of fossils on both sides of the oceans is so great that it is evident that these animals must then have been able to pass from one continent and colonize the other. The road lay far to the north, but the genial climate kept it open to all sorts of migratory creatures.

There was at this period, also, a broad isthmus between the two Americas, permitting

migration north and south as well as east and west, and it is from that time that we date the arrival of many ancient South American animals, one of which still remains — the opossum. Such a condition for world-wide distribution of plants and animals seems never to have arisen again, although lesser migrations have occurred, for "bridges" were submerged and re-established more than once in the subsequent periods.

Finally the advancing world arrived at that comparatively recent stage, just preceding the Glacial Epoch, which is known as the Pleistocene. All land-connections between Europe and Greenland had then sunk under the waves, leaving only Iceland, the Farøes and the Shetlands as monuments to its former situation; but now the basin of Bering Sea was once more drained and an isthmus of dry land, a thousand miles wide, united Siberia with Alaska, and this remained until the disappearance of the continental ice-cap.

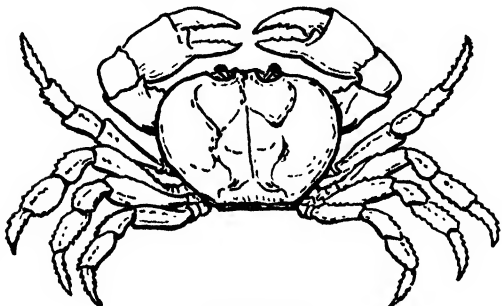
It was by this broad path that America became peopled by a large number of the many kinds of animals which formed the truly grand fauna of our country in the Pleistocene Epoch. Only those who have studied the matter realize how rich and varied this fauna was (as compared with the present paucity) in the genial time just preceding the general glaciation. A large proportion of the animals were immigrants; and, as no bridge had existed across the Atlantic for a long time previous, they must have come over from Asia by way of Alaska.

In this way we obtained most of our northern animals — the bighorn and the mountain goat, the bison, such deer as the moose, caribou and wapiti, the bears, the badgers, otters and other fur-bearers, foxes, wolves and a long list of lesser mammals, birds, etc. None of these have American ancestors. In return, America gave to the Old World the horses and camels, which, originating here, passed over into Asia and on beyond, where they survived, in more favorable circumstances, the extinction that overtook their races here. These two also passed into South America, where all the horses died out, but representatives of the camel family remain in the guanacos, vicuñas and their domesticated races; and there came north the cumbersome ground-sloths and other strange early beasts, and, later, such modern ones as the puma, the porcupine and a few others.

But the strangest incident of this nature is that of the elephants which, from the Miocene onward, wandered over North America and finally penetrated to Patagonia. They developed as species and grew in size until at last they resulted in the huge imperial elephant, the mastodon and the mammoth, the last two of which were killed off here, as in Europe, by primitive men. All of these were, as races, immigrants; but from where? It is only within half a dozen years that this question could be answered. "Appearing," says Dr. Scott, "suddenly in the Miocene of Europe and North America, in which regions nothing was known that could, with any plausibility, be regarded as ancestral to them, they might as well have dropped from the moon for all that could be told concerning their history. The exploration of the Eocene and Oligocene beds of Egypt

has dispelled the mystery, and has shown that Africa was the original home of the group. See also ELEPHANT.

LAND CRABS include a family of true crabs, the Gecarcinidae, and one of land hermit crabs, the Coenobitidae. The true land crabs have a thick, hard, generally smooth shell. The



Land crab

spacious gill chamber is lined with a thick vascular membrane. This tissue serves as an additional respiratory organ and is sufficiently spongy to retain water for a long time helping to keep the gills damp. In the aquatic crabs the corresponding tissue is a thin smooth membrane. Several species of land crabs are found in the coastal areas of all warm climates. Two types are common in the West Indies and southern Florida. The larger of these, *Cardisoma guanhumi*, is popularly known as the great land crab, white land crab, mulatto land crab, juey, tourlourou or guanhumi in various parts of its range. Its shell commonly measures from four to five inches across, while the claws may spread as much as twenty-two inches on large individuals. The smaller type occurs in two closely related species *Gecarcinus ruricola* and *G. lateralis*. Both are popularly known as the black land crab over most of their range although *G. ruricola* also bears the names mountain crab, blue land crab or red tourlourou. The land crabs generally live in holes which they dig in the ground at least until a damp layer of soil has been found. The crabs emerge chiefly at night and in any case avoid the bright sunlight as they die quickly when their gill chambers become dry. They eat mostly vegetable matter but will eat some fresh meat if available. All of the land crabs must go down to the sea during the breeding season as the young crabs must pass their early life in the sea. It is not clear whether the eggs are deposited in the sea or whether the young hatch out at the time the female crab bathes her abdomen in the sea. Land crabs are eaten by native people almost wherever they occur. In some places land crabs have become a serious economic pest. Rice cultivation is greatly impeded in Puerto Rico by the great land crab whose burrows penetrate the clay soil to the porous layers beneath, rapidly draining the paddy fields and wiping out the crop. In Florida as many as ten thousand of these crabs have been reported from a single acre of tomato land where they devour the young plants.

The land hermit crabs belong to two genera, *Coenobita* and *Birgus*. The former is found in the coastal regions of all warm lands; the latter from Zanzibar to the Gilbert Islands. *Birgus*

latro is the famous robber or coconut crab. It is a large form often measuring as much as fifteen inches long. *Coenobita* includes the small land crabs often called soldier crabs in the West Indies. The modification of the respiratory organs for land life differ in these two forms. *Birgus* has a large gill cavity with a very well-developed spongy lining membrane which performs the same function as that of the true land crabs. *Coenobita* does not have so large a gill cavity and the lining membrane is smooth and thin. Unlike the adult *Birgus* whose abdomen has become sufficiently tough so that it can dispense with the sheltering mollusk shell required by other hermit crabs, *Coenobita* has a thin soft abdominal cuticle and usually carries a snail shell about as protection for this vulnerable portion of its anatomy. A network of blood vessels in the abdominal skin, which is kept moist by the protective snail shell, appears to serve as an auxiliary respiratory organ although definitive experiments have not been made. Both crabs must go to the sea for breeding as do the true land crabs. Both genera are omnivorous although they appear to subsist largely on vegetable matter. *Coenobita* may serve as a scavenger and abounds near such sources of abundant food as pig pens and refuse dumps. The popular impression that the coconut crab can open an undamaged coconut or detach coconuts from the tree and drop them upon the ground so as to crack them open is false. The coconut crab is widely used for food by native peoples but *Coenobita* has no economic value.

LAND CREDIT AND LAND CREDIT INSTITUTIONS.

Credit accorded on real estate security is short term if the period is nine years or under, and long term if it is 10 years or over. In the United States, however, long term is understood to begin after five years. Usually the principle of short-term loans is payable in lump at the end of the period, but the principal of long-term loans is reducible to final extinction by partial payments at stated intervals during the period. There are two methods for determining the amount of each of such payments, and also two ways of using them for the reduction and extinction of the debt. The amount may be determined by dividing the principal into equal parts by the number of years, or by splitting it into unequal parts and leaving the larger ones to the latter years so that the partial payments, with interest included, may be as nearly even as possible. Each payment is represented by a promissory note drawing interest from date of the loan.

The common method of computation is to divide the principal by the present value, at interest compounded at the given rate, of a payment of one dollar at the end of each year for the period of the loan. To illustrate, the present value of a 20-year series of such one-dollar payments at 5 per cent compound interest is \$12.46221—a figure that divides 1,000, for instance, into 80.24 equal parts. Hence, this would be about the annual sum that a borrower would have to pay at the end of each year, in order to extinguish a \$1,000 loan at 5 per cent interest within 20 years. If the period is 10 years, he must, by similar reasoning, pay \$129.50, while if it is 50 years he must pay \$54.77 annually.

The borrower's payments determined by this

method are called *annuities*, and the process of paying off a loan by such annuities is called *amortization*.

A variation of this method and process is to require the annuities to be paid at the beginning instead of at the end of each year, and to calculate them accordingly. On a 20-year \$1,000 loan at 5 per cent interest the annuity would then be \$77.94. But inasmuch as the first annuity is deducted from the face of the loan, the borrower would actually get only \$922.06. So if he wished the full \$1,000 he would have to borrow \$1,084.53 and pay a correspondingly larger annuity. When payments are semi-annual, the interest dates are counted instead of the full years, and only one-half of the annual rate is taken; and so also with quarterly payments. Tables published in various languages give the rates by which the annuity can be computed for amortizing a loan of any amount, interest or period up to 100 years. Tables also show annuities in integral figures, as \$25, \$50 or \$75, but inasmuch as they let the period take care of itself, they are objectionable because of the odd number of years and the fractional payments at the end.

The amortization of loans by annuities supposes that out of each annuity there is taken the necessary part to cover interest on the loan and that the remainder is immediately applied to the reduction of the unpaid principal. The effect is the same as that of the instalment plan; and this is one way to use the borrower's payments for the gradual extinction of his debt. The other way is to reckon the principal as remaining at its original amount throughout the period and to place the payments, less interest, into a sinking fund to be credited with interest at a given rate. If this rate is the same in every particular as that of the loan, there will of course be no difference between these two ways in actual results. But the borrower would be at a disadvantage if the sinking fund's yield were lower than that of the loan; and such is often the case in Austrian savings banks, where this sinking-fund plan is much used and the borrower's payments are kept as a deposit account. Loans, whatever be the manner of payment, attain their land-credit character by the mortgage given by the borrower to secure the performance of his contract. The value of the mortgaged property must at least equal the amount of the loan, and the borrower's title to it should preferably be free and unencumbered. The value and title are determined to the lender's satisfaction. Titles may be guaranteed by companies formed for such purpose. In the United States 19 States have enacted laws, embodying features of the Torrens system, for determining the title expeditiously; but in a number of the Western States the foreclosure laws, by reason of the borrower's homestead and other exemptions and redemption rights, do not permit a speedy collection of the debt in the event of default.

Long-term reducible loans are manifestly not suitable for the individual investor. They are practicable only for institutional investors that can issue their own credit instruments against them and thereby effect the immediate recovery of their funds, despite the length of the loan period. These instruments may be either bonds,

like a promissory note, or debentures in the nature of a certificate of indebtedness with or without a date set for payment. Both may be subject to recall at the maker's will and be secured by mortgages held in trust. Debentures, however, usually have no fixed maturity or specific security, but are retired periodically by lot, while the holder's protection is the prior lien of the debentures on all the institution's assets. The length of a loan depends, from the borrower's standpoint, upon the size of the annuity he wishes to pay; from the lender's standpoint, it depends upon the terms and conditions upon which money may be obtained. The institutions for according land credit are either public, semi-public or private. Pure public institutions are those in which government supplies the working funds or the permanent fund, if any, and appoints the executive officers.

In form public institutions are bureaus, commissions or departments of government supported by regular or occasional appropriations, or incorporated bodies with capital or a foundation supplied by government, and with its guaranty, expressed or implied, on any credit instrument they may issue. They are not intended for the average landowner, and they never extend credit without imposing conditions in regard to the person, the rule being that wherever the cash or credit of government is used, the borrower must be in actual need of such help and must swear to apply the loan to the specified object for which it was granted. They were established for breaking up the feudal system, for dividing and allotting large estates, for enabling peasants or workmen to acquire small farms or homes, for promoting interior colonization or settling the public domain, for financing land reclamation, for relieving distress due to war or natural causes, or for meeting problems arising from compulsory military service, absenteeism of landlords, congested population or political emergencies. Government has sometimes subsidized private institutions having such objects. Institutions in which private individuals may hold stock, or participating in profit and loss, and join government in electing the directors and officers are semi-public. Like pure public institutions, they have various forms, and the older ones were authorized by special laws.

The German *landschaften* are a notable type of semi-public institution. There are 23 of these in Germany, and some very loose adaptations of them in Sweden, Denmark, Austria-Hungary and Russia. Formed under special laws enacted at widely different times, they vary greatly in organization and operation. But an outline of the Silesian *landschaft* (created in 1769 and so the oldest of all land-credit institutions) will give a fair idea of the others. A *landschaft* is a district managed by an administration whose chief officers are appointed by government upon nomination of resident landowners enrolled as members. The district includes only lands lying outside the towns and cities and is divided into lesser areas, each with a local administration subordinated to the one just above it. The central organization consists of a president, two vice-presidents, a secretary and a treasurer. The local administrations have a similar organization, except the lowest subdivisions where the sole executive officer is a superintendent.

The organization is associational without capital stock or shares. The voting strength of each member is determined by the number and amount of his mortgages. The voting is done in circles, as the lowest subdivisions are called. Members elect the superintendents and also delegates to sit in convention for selecting the nominees for the other offices. Beyond this members have no voice in the management. They cannot dissolve the landschaft nor alter its structure or purpose since it is not formed under articles of agreement, but was established by legislative act. Acceptance of office is obligatory upon election. Members are bound when duly called upon to perform such duties as caretakers, cultivators or receivers of mortgaged farms taken over upon default of loans. Compensation may or may not be allowed them. All members are borrowers, since nobody joins except applicants for loans, and membership ceases upon repayment of the loan. Any qualified landowner is entitled to admission. If his application be refused by the local owners, he may appeal to the central administration, which in all cases must make the final decision.

The loans of the landschaft must be secured by first mortgage on land worth 50 or 40 per cent more than the loan and stocked with enough equipment and domestic animals to assure a production at least equal to annual dues and taxes. The loans are without any other restriction as to amount, use or purpose. They are always long term and repayable by amortization on the sinking-fund plan. A feature, however, that distinguishes the landschaft from other land-credit institutions is that the loans are made, not in cash, but by an exchange of the borrower's note and mortgage for the landschaft's own debentures. The law prescribes \$1,000 to \$20 as the denominations, and 5 to 3 per cent per annum as the interest rate of these debentures, and gives the borrower the right to select the kind he wants. The annuity consists of the interest on the debentures he selects, plus one-half of 1 per cent of their face; and so the loan and the debentures exactly correspond in amount and interest rate. The borrower undertakes to pay the annuity until his debt is completely extinguished. To this may be added a small charge for expenses during the first 10 or 15 years. Besides the obligatory annuities, the borrower may make voluntary payments as often as he pleases, and tender debentures at par in lieu of cash for all his dues. Defaults are never allowed for longer than six months, since the only money the landschaft has for meeting its obligations on the debentures comes from the loan they represent.

The annuities and other payments by borrowers are placed in the sinking fund as soon as they are received. When the borrower's account therein, after entries of his proportional share of any profit or loss have been made, equals the original amount of his loan, his mortgage is canceled and his membership ceases. This may happen sooner or later than expected. So the period of the loan is somewhat indefinite. No debentures are issued except upon the making of a loan. But the landschaft maintains a bureau for selling them for the borrowers. The sale may be below or above par, and so the interest the borrower

actually pays depends upon the market quotation. With the view of protecting investors, the interest date of the loan is set a few months ahead of the interest date of the debentures, while the membership agreement gives the landschaft a right to instant possession of the mortgaged property in the event of default, or even if it deems its claims in jeopardy. Every six months the landschaft must by lot retire debentures up to the amount of cash on hand in the sinking fund, so as to preserve an exact balance between the outstanding amounts of the loans and debentures. For this reason the debentures are made without any fixed maturity, but are callable at par at the landschaft's will.

This semi-annual retirement and payment of its own debentures and interest coupons, or the acquisition of the same by purchase in open market or through borrowers tending them for their dues, are the only lawful uses that a landschaft may make of its sinking fund. This fund cannot be reinvested in mortgages. If it should become impaired, the landschaft may levy assessments on all borrowers in proportion to the unpaid principal of their loans, in order to make good the deficiency. Hence, since the borrowers are thus collectively liable on the debentures, they are mutually responsible by one another's defaults; and this continues for two years after membership ceases. In most of the landschafts the liability is unlimited, but in a few others it is limited to some percentage or multiple of the mortgage. The landschafts are not profit-making. Their sole object is to exchange their debentures for the less salable note of the borrower, and so enable him to obtain a loan at a lower rate and on easier terms than he could get through his own unaided credit. Operating in this way, the landschafts have need of no other money than what they receive from the borrowers for paying running expenses and interest and for redeeming the debentures. Consequently their only funds are the sinking fund and perhaps a small reserve to guard against contingencies.

Private institutions are those that are owned, financed and managed entirely by individuals without any assistance or intervention of government, except official supervision. With a few exceptions, they are authorized under general laws and not by special acts. There are three kinds: Companies for insuring or guaranteeing titles or mortgages, bond and mortgage companies, and building and loan associations. The first kind, when they confine their business to their distinctive object, serve rather to expedite than to extend credit. When they extend credit, they follow the methods of other private institutions, and so will not be treated separately. Bond and mortgage companies have fixed capital stocks divided into shares, usually paid in.

The various laws of bond and mortgage companies differ widely in detail and at important points, but their first model was the French legislation of 1852, which contains two master clauses. These are capital stock and surplus must be maintained at a safe ratio to bonds or debentures; and bonds or debentures in circulation must represent first liens on real estate of adequate value and never exceed outstanding loans in either

amount or interest rate. The ratio is never more than \$1 to \$20. A part of the capital stock or all of an obligatory reserve is set aside as guaranty fund and kept in liquid investments. The reserve is created out of a portion of the annual earnings. With this exception, a company may invest all its assets, regardless of source, in mortgages and distribute all its profits among shareholders. There is no limit for dividends since the aim is profit. A maximum is sometimes prescribed for capital stock, so as to prevent monopoly, but inasmuch as the capital stock serves not only as a working-fund, but also as a guaranty-fund and must be maintained at the statutory ratio to bonds or debentures, its amount may be increased upon approval or order of the supervising authority.

Generally the companies may extend credit to any class of landowners or on any kind of land designated by the charter or by-laws. The loans may be made for long term payable by annuities, or for short term payable by instalments or in lump, but rarely on the sinking-fund plan. The longest term in France is 75 years. The mortgaged property must have a value 40 or 50 per cent greater than the sum lent upon it and be capable of yielding a durable and certain revenue, which, in the case of long-term loans, must at least equal the borrower's annual dues. If there be a maximum for amount of the loan, it is usually one-tenth of the capital stock. The interest rate must not exceed that borne by the latest issue of bonds or debentures, plus an addition usually limited to one per cent more for costs and profits. Payments on loans are made annually or semi-annually. Perishable parts of the mortgaged property must be insured. The bonds or debentures are issued in series, with dates fixed for payment of principal and interest, but with a provision under which they may be recalled before maturity at a premium; in France prizes are lawful at their redemption. That country also has provided for licensed land-credit companies a special procedure for examining titles.

A building and loan association is an incorporated body with a variable capital; that is to say, a capital which may be increased or decreased by the issuing or canceling of shares, or by payments or withdrawal of payments on such shares. There may be any number of members above the minimum fixed for incorporation. According to the original design, the area of an association was delimited by a radius of a few miles from headquarters, so as to make all operations local. Its powers are to receive members' savings to lend to members for building or acquiring homes. These features stimulate thrift, and for this reason tax exemptions are accorded. The administration consists entirely of members elected by members, the funds all come from members and the facilities are available for members only. The association is, therefore, co-operative.

Shares may be held only by duly admitted members and each entitles the holder to one vote. These are of various kinds. The most common are instalment shares, on which the subscriber makes payments at stated intervals, and investment shares, for which payment may be made in whole or in part at subscription.

A *permanent* association may issue shares at any time. A *serial* one may issue shares only in series, and no new shares may be issued in a series after a dividend has been declared, except to subscribers who pay the book value of such shares. Instalment shares are used for loan transactions. A borrower is required to subscribe to instalment shares in an amount equal to his loan. Consequently he becomes liable to twice the amount of his loan for any losses of the association. A first mortgage is given on the house and lot for which the loan was made, and the shares are pledged as an additional security. Non-borrowing members may subscribe for as few or as many shares of any kind as they please. Payments made by members serve to mature the shares. Each share is credited with its proper portion of the profits. At maturity the shares are canceled. If a member is not indebted to the association, he is given their face value in cash. If he is a borrower, this value offsets his debt and his loan becomes paid and his mortgage is canceled, along with his pledged shares. Pledged shares may not be withdrawn until the loan has been fully paid. But the credits on other shares ordinarily may be withdrawn on 60 days' notice.

By reason of this method the loans of a building and loan association are repayable in instalments on the sinking-fund plan, and may run for 10 or even to 18 years. The funds that an association may have for investment are auctioned off to the highest bidder at a regular meeting or at some meeting specially called for the purpose. The sum which the successful bidder pays in addition to the interest rate is called the premium. The law prescribes no limit for this, while entrance fees and fines for withdrawals or defaults may be charged. Hence, the borrower may be required to pay what would be usury in the case of any other institution or lender. In the United States, there are at least 68 premium plans, 25 plans for distributing profits, 12 withdrawal plans and 7 kinds of shares. So many changes have been made in their original scope that the building and loan associations, under the laws in a number of the States, are no longer true to type. This has been brought about by removing restrictions as to area, making shareholding a mere nominal requirement for borrowers and depositors, and permitting the associations to borrow money, issue bonds, incur liabilities with persons not members, and to finance themselves with funds coming from outside sources.

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LAND GRANT. See PUBLIC LANDS.

LAND GRANT COLLEGES. See AGRICULTURAL COLLEGES; COLLEGES, LAND GRANT.

LAND HOLDING. See CORPORATIONS, LEGAL.

LAND LEAGUE, an Irish organization founded under the presidency of Charles Stewart Parnell, the Irish Nationalist leader, but inspired and organized by Michael Davitt at a meeting held in Dublin on Oct. 21, 1879. Three successive failures of the Irish crops from 1877 to 1879 led to widespread distress among Irish tenant farmers and peasants. In many cases they were unable to meet their obligations and thousands of evictions took place accompanied by outrages against the landlords. The chief aims of the Land League, formed to meet this situation, were to reduce rents, protect tenants from unfair eviction, and obtain peasant ownership of the land. The situation was greatly aggravated by an abortive prosecution of Davitt and other Land League leaders in November 1879 and the House of Lords' rejection of the Compensation for Disturbance Bill introduced by the Liberals to aid evicted tenants. Parnell, accompanied by John Dillon, son of the rebel John Dillon of 1848, went to the United States to raise relief funds for the people and returned home with £40,000 and many American friends for the cause. Parnell opposed the violent measures to which the desperate peasants often resorted. Instead he, along with other leaders, encouraged the system of boycotting, so named from its first victim, a County Mayo land agent named Capt. Charles C. Boycott. The system proved very effective and the Land League grew in power until 1880 when Parnell and thirteen others were indicted for encouraging peasants not to pay rents. Although they were acquitted the Land League was declared illegal and the Habeas Corpus Act was suspended resulting in the imprisonment of almost two hundred persons without trial. William Gladstone then came to the aid of the Irish with a new land bill in 1881 which improved the position of the tenants. However, when Parnell only met the measure halfway, Gladstone had him imprisoned in Kilmainham with his chief aides. From prison Parnell directed the peasants to pay no rent. The resulting furor on the part of the aroused peasants and increased coercion on the part of the government soon brought matters to a head. The prisoners were released and according to an agreement called the Kilmainham Treaty, Parnell agreed to curb the outrages of the peasants. Thereafter the Land League was suppressed but its principal aims were later realized in George Wyndham's act of 1903 which in effect completed the passage of ownership of land from landlords to tenants.

Consult Palmer, N. D., *The Irish Land League Crisis* (New Haven 1940).

LAND MANAGEMENT, Bureau of. The Bureau of Land Management, Department of the Interior of the United States, formed in 1946 through consolidation of the General Land Office (1812) and the Grazing Service (1934) is the federal agency accountable to the people for the administration, selective disposal, conservation and management of the vacant public lands. These lands total some 180 million acres in the United States and 290 million acres in Alaska. In addition, it is responsible for leasing the mineral rights on approximately 700 million acres of federally-owned lands and on about 50 million acres of privately-owned lands on which the U.S. government has retained mineral rights.

Specific activities in connection with the management of federal lands are: *Cadastral Surveying*—the identification of land areas. These surveys create land boundaries, identify lands, determine areas, furnish legal descriptions, and establish monuments on the ground. *Range Management*—issues permits, licenses, or leases permitting use of the federal range within grazing districts and vacant public lands for grazing purposes in the Western states. In addition, the Bureau of Land Management, under provision of the National Soil Conservation Act, carries out conservation operations to restore and rehabilitate these range lands. Areas depleted or deteriorating because of past abuses or from fire or flood must be given conservation treatment to restore their maximum productivity. The Bureau of Land Management, in cooperation with stockmen, also conducts a range improvement program which includes weed control, construction of truck trails, corrals, fences and livestock watering facilities.

Forestry.—The Bureau of Land Management is guardian for 28 million acres of timber and woodland in the United States. In addition another 125 million acres of timber and woodland in Alaska and 2½ million acres of heavily forested Oregon and California revested railroad grant lands in western Oregon are managed by this bureau. This program includes the sale of timber, selective cutting, protection of timber against fire, diseases and insects, reforestation and construction of access roads.

Mineral Leasing.—Oil, gas and coal as well as sodium phosphate and potash from public domain mineral lands are leased to the public by the Bureau of Land Management.

Disposal of Land.—The Bureau of Land Management has land in trust for disposal under the homestead, desert land, small tract, public sale, recreational, exchange, and other acts. This land is available in Alaska and in Idaho, Oregon, Washington, Nevada, California, Montana, Wyoming, North Dakota, South Dakota, Nebraska, Kansas, Utah, Colorado, Arizona, New Mexico, Oklahoma, Wisconsin, Michigan, Mississippi, Alabama, Florida, Indiana, Minnesota, Missouri, Arkansas and Louisiana.

Land Records.—The records of disposal of lands under the public land laws as well as survey records are housed by the bureau.

Acting as a guardian for the public interest in the management of the lands of the public domain, the Bureau of Land Management has collected receipts of millions of dollars. During the fiscal year 1951, the Bureau of Land Management collected receipts of \$49,082,331 from the ad-

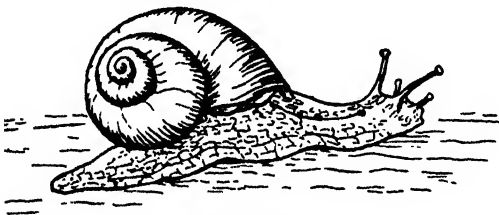
ministration of resources on public lands, as compared to a Congressional appropriation of \$8,300,530 for the management of those same lands—representing a ratio of nearly \$6 return for every one dollar appropriated.

The Bureau of Land Management has its main office in Washington, D.C., and seven regional offices to expedite service to the people in areas in which they live. The regions are: region 1 serving Washington, Oregon and Idaho; region 2 for California and Nevada; region 3 responsible for the states of Montana, Wyoming, North Dakota, South Dakota, Nebraska and Kansas. Region 4 supervises Utah and Colorado; region 5 Arizona, New Mexico, Texas and Oklahoma. Region 6 is responsible for the management of land available to the public in the area east of the Mississippi and in the tier of states immediately west of the river. Region 7 is in Alaska.

MARION CLAWSON,

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LAND SNAIL, an air-breathing terrestrial gastropod mollusk. Most land snails have a horny, spiral shell, sometimes more or less calcified, into which the whole animal may be drawn. In the marine snails breathing is accomplished by gills which are derived as projections of the tissue lining the respiratory chamber (the mantle cavity). In the order Pulmonata, to which the great ma-



Land snail.

ajority of land snails belong, these projections have disappeared entirely while the blood vessels of the chamber's walls have greatly increased in number and lie near the inner surface, bringing the blood close to the air which fills the cavity. The lung thus formed has a single opening on the right side under the edge of the shell. This aperture remains closed as long as the concentration of oxygen within the lung is adequate and opens whenever it falls below a certain value. Land snails move about on a single long, narrow, muscular foot. Motion is accomplished by a wave of muscular contraction passing along the foot so that each successive portion is raised and advanced a short distance. The wave system may advance in the same or opposite direction as the motion of the animal. Several different wave systems may be present at the same time and even include systems going in both directions. The common European edible snail has a sort of low and high gearshift. When progressing at a normal pace the wave starts at the front end of the animal and spreads rapidly towards the back. When, however, the snail goes into rapid motion, large waves running in the opposite direction are superimposed upon the small normal waves. Most land snails lack the operculum or hard "door" which closes the aperture of marine snails when the animal has drawn itself within. The radula is a many-toothed, ribbon-like structure which the snails can move back and forth by special muscles and employ like a carpenter's

rasp to shred and tear their food. Vegetable matter makes up most of their food and a few species such as the Giant African Land Snail in the Indo-Pacific are serious pests to agriculture. Some snails also eat insects, earthworms, other snails or almost any available meat. The sexes usually are united in the same individual. Copulation may take place in any one of three ways and occasionally the same individual may exhibit all three at different times. The individuals of a pair may each function as only one sex; or mating may be mutual when each individual acts as both a male and a female at the same time; or, in the third case, self-fertilization may take place. The tough-shelled eggs are laid singly in damp places. Land snails are eaten by insects, birds, and a number of small animals. Particularly interesting among insect snail eaters is a ground beetle the head and fore part of whose body are specially modified into an apparatus for extracting the snail from its shell. Some land snails also serve as intermediate hosts for parasites of higher animals. Especially striking is the trematode genus *Leucochloridium*. In the early developmental stages they live in certain land snails in the northern temperate zones. The parasite develops a large brightly colored pulsating sac in the head or tentacles of the snail host. These sacs apparently make the snail attractive to the birds who then eat the snail and so become infected. Land snails are very widely distributed having been reported from above the snow line in the Himalayas at an altitude of 16,400 feet as well as from the hottest desert region. They require a certain amount of moisture and are most numerous and varied in tropical countries. The details of the geographic variation and distribution have been the basis of some of the classical studies on the principles of animal distribution and evolution. When conditions are unfavorable, as during a dry season or winter in a cold climate, the nonoperculate land snails creep into sheltered places and either seal the aperture with a drumhead-like membrane of dried mucus or cement it to some solid object with the same material. Recoveries after some extraordinary long durations in this inactive state have been reported, including one of eight and a half years. Land snails vary in size from minute animals no larger than a pin head to the giant African land snail whose shell sometimes measures a little over nine inches.

Land snails, mostly members of the genus *Helix*, are extensively used for food by Europeans. The Romans held them in high esteem and special establishments called *cochlearia* were constructed for the purpose of fattening these snails. In France, edible snails are extensively cultivated for market in enclosures called *escargotières*; large numbers are also gathered from the vineyards and sold in the larger towns of southern France and Italy. Considerable quantities of edible snails are imported into the United States. At least two species of these snails, *Helix aspersa* and *Otala lactea* have become established in coastal regions of North America. The former has become a serious garden pest.

Consult Bartsch, Paul, *Mollusks*, Smithsonian Scientific Series, vol. 10. (New York 1934); Pilsbry, H. A., *Land Mollusca of North America*, Academy of Natural Sciences Monographs, No. 3, 2 vols. (Philadelphia 1939-1948).

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LAND SURVEYING. See SURVEYING.

LAND TAX, formerly one of the chief sources of levying an income for government uses, but in modern times constituting generally an inconsiderable part of national incomes. Both the Greeks and Romans taxed upon the estimated yield of land in their earliest taxation, but later developments of wealth gave broader sources of income and the land taxes ceased to occupy the place of prime importance in providing a government income, except where agriculture instead of commerce and industry forms the chief occupation of a country.

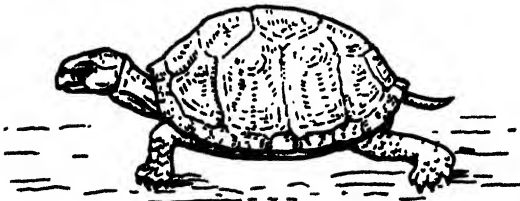
Rome returned to the land tax as a source of revenue after the decay of the empire destroyed her commerce; and northern European countries depended upon land taxes almost exclusively in their earlier days. The development of wealth in other forms invariably diverts taxation from the land except where it is required for purposes of social or political development.

The French physiocrats of the 18th century maintained that the entire source of revenue for government uses should be vested in the taxation of land. While these theories have had many adherents, the present economy, based largely on production, makes them practically untenable.

In the United States the laws of the individual states vary, but the general procedure is the assessment at a uniform rate of all property, including land. This general property tax is based on expenses and value. There is no federal taxation of land, direct taxation being left in the hands of the states. As a rule changes in land taxation in the states are at present employed as a means of preventing the land from being held in idleness, thereby retarding the development of the community as a whole.

LAND TORTOISE, any of several terrestrial reptiles of the family Testudinidae, which belongs to the suborder Cryptodira, of the order Testudinata (or Chelonina). The family also includes some aquatic turtles.

Like other turtles in the same suborder, the neck of land tortoises is retractile within the shell, bent in an S-shaped vertical curve. Ordinarily the shell is well developed, being made of flat, bony plates fused with the ribs and vertebrae. Large, horny plates overlies the bony shields.



Land tortoise.

The skull roof is incomplete. A ridge is present on the biting surface of the jaws, and the horny beak has a sharp, cutting edge, often serrated. The nostrils are on a level with the front edge of the eyes. The hind limbs are usually club-shaped, and covered with enlarged, often bony scales. The forelimbs, similarly covered and somewhat flattened, can ordinarily be drawn in to protect the withdrawn head. There are never more than two phalanges in the digits.

Most land tortoises either belong to the genus *Testudo* or are closely allied. Several subgeneric

names were proposed by Lindholm in 1929. *Gopherus* of North America, *Malacochersus*, *Kinixys*, *Acinixys*, and *Homopus* of Africa, and *Pyxis* of Madagascar are turtles closely related to those of the genus *Testudo*, which includes from 40 to 50 species.

Land tortoises are absent from Australia and New Guinea and adjacent islands, but otherwise almost cosmopolitan. They have an ancient lineage, dating back over 50 million years to the Eocene epoch in North America, Eurasia and Africa. Land tortoises were in South America at least as early as the Miocene epoch, 25 million years ago, and from there they reached the Galápagos Islands, where a single species, *Testudo elephantopus*, with several subspecies (some now extinct) evolved to produce individuals of great size on the isolated islands in the archipelago.

Gigantic land tortoises, some of which exceeded 500 pounds in weight, also occur in the islands of the western Indian Ocean, including the Seychelles, Rodriguez, Aldabra, and Mauritius. Over 10 million years ago even larger tortoises, *Colossochelys*, allied to *Testudo* lived in India. Land tortoises devour grass, leaves, and succulent plants, and the giants among them fill the niche occupied by the larger herbivorous mammals, which were absent from the islands inhabited by the larger tortoises.

Land tortoises have been reduced in numbers throughout the world, largely because of man and his activities. Shortly after the discovery of the Galápagos tortoises, ships carried them away by the thousand. Whalers and buccaneers found that such reptiles provided unsurpassed supplies of fresh meat, since the tortoises could be kept alive and unfed for months, packed away in the hold of the ship. Tortoises are eaten in many parts of the world. In Africa the meat of *Testudo* (*Geochelone*) *pardalis* is greatly esteemed by the Hottentots and other natives.

Tortoises lay relatively few eggs; these are usually white, hard-shelled, and nearly spherical. *Gopherus agassizii*, for example, deposits from two to six, but as many as 18 are deposited by *Testudo* (*Geochelone*) *pardalis*. Another African species lays but a single egg at a time, although several may be laid during a season. Eggs, laid in holes dug in the ground, require from 75 days or more (for *Gopherus agassizii*) to as long as a year to incubate.

Growth in land tortoises is commonly slow, but may continue for long periods. A European tortoise, *Testudo graeca*, grew persistently for 39 years. Great ages are attained by individuals of many species. One (*Testudo sumeirei*), brought to Mauritius in 1766 survived until 1918, when it was accidentally killed. Its age at death is estimated to have been between 200 and 250 years, although 152 is the greatest age that can be proved. This exceeds the authenticated maximum for any other backboneed animal.

Arid regions as well as forested areas are inhabited by land tortoises. Some dig burrows. Others remain on the surface, but crawl under ledges or vegetation to hide themselves while resting. Those living in cooler regions hibernate, sometimes in communal "dens," as reported for *Gopherus agassizii* in southwestern Utah. A few species merely bury themselves in the ground. Tortoises living in warmer regions may retire underground (or estivate) during periods of excessively hot or dry weather.

Vision in tortoises is moderately acute, and available evidence indicates that they have the ability to distinguish colors. Their hearing is not defective, although loud noises do not appear to disturb them. Individuals have been taught to respond to special noises.

Courtships are reported for several species. Males may bob the head or bite harmlessly at the shell as a means of stimulating the female prior to copulation. Fights between competing males often occur.

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LANDER, Richard Lemon, English African explorer: b. Truro, Feb. 8, 1804; d. Fernando Po, Feb. 6, 1834. He became a domestic servant; in that capacity accompanied Capt. Hugh Clapperton as his servant on his second expedition into the interior of Africa (1825). After Clapperton's death in 1827 he returned to the coast and in 1830 published *Records of Captain Clapperton's Last Expedition to Africa*. In the spring of 1830 he set out with his brother John to explore the course and termination of the Niger, under the auspices of the English government, and from Badagry, near Cape Coast Castle, they proceeded to Boossa on the Niger, and after ascending the river for about 100 miles traced its course downward to the sea and proved that it entered the Bight of Benin by several mouths. They were the first also to discover that it was fed by the Benue. Their journal was published in 1832, entitled *Journal of an Expedition to Explore the Course and Termination of the Niger*, and was translated into several languages. While on a trading expedition in the delta of the Niger, he was wounded by the natives and died soon after. The story of his last journey is told in *Narrative of an Expedition into the Interior of Africa* (London 1835).

LANDER COLLEGE, a small college for women at Greenwood, S. C., founded in 1872 by the Methodist Church. It has a campus of about 75 acres, and the student body (1950-1951) was 173. It offers the B.A. degree, and a degree in music.

LANDES, länd, maritime department of southern France, bounded on the west by the Bay of Biscay. Its area, 3,604 square miles, makes it the second largest department in France, but owing to the fact that three fourths of its territory is occupied by the Landes marsh and pine lands, it is one of the most sparsely-settled districts in the country. The remaining land is highly fertile, however, and the population draws a considerable part of its income from the cork and pine trees of the marsh lands, which yield timber, resinous products, charcoal and cork. There are also sawmills, salt works, iron works, stone quarries, brick and tile works and potteries. Mont-de-Marsan is the capital of the department. Pop. (1946) 248,395.

LANDGRAVE, länd'gräv (German *Landgraf*), a title assumed by certain territorial counts of the German Empire to distinguish them from the inferior counts. There were originally three landgraves, those of Thuringia and of Upper and Lower Alsace, who were princes of the empire. The title was assumed by Louis III of Thuringia about 1130.

LANDING FORCE, an organization of troops especially trained and equipped for amphibious operations, which is assigned the task of landing on a hostile shore against a position or group of positions so located as to permit their seizure by troops operating under a single command.

A landing force is normally a subordinate element of an amphibious task force and is composed of an offensive ground force, with such supporting air, naval and logistical forces as may be required.

LANDING PARTY, a naval organization permanently established within each ship, division, force, and fleet, consisting of headquarters, rifle, machine gun, and other units as prescribed by the force or fleet commander. A landing party is organized to perform limited ground force operations, military police duties during disturbances, and parades and ceremonies, as distinguished from a landing force, which is designed for major ground force operations of a more extensive nature. Landing party organization follows the pattern of Marine Corps infantry units, with each ship providing a designated subordinate unit known as the ship's landing party. Units on the smaller ships are so organized that they may be banded together to form a larger balanced landing party. A ship's landing party is comprised of marines insofar as is practicable; however, bluejackets are used to increase the strength of the landing party to whatever size is necessary to accomplish the assigned mission. The landing of a naval landing party is a recognized procedure in the way of maintaining order where necessary without bringing up a question of war or invasion such as would arise from sending a large force into a country. See also AMPHIBIOUS WARFARE.

LANDINI, län-dé'nè, **Taddeo**, Italian sculptor and architect: b. Florence, c.1517; d. Rome, 1594. Only three of his works survive: the large bas-relief over the principal entrance to the Pauline Chapel of the Vatican, representing Christ washing the feet of the Apostles; a statue of Sixtus V in the Capitoline Museum; and the Fountain of the Tortoises in the Piazza Mattei.

LANDINO, län-dé'nò, **Francesco**, Italian poet and musician: b. Florence, c.1325; d. there, Sept. 2, 1397. Blinded in childhood by smallpox, he devoted himself to music, playing the lute, guitar, flute, and a clavier instrument of his own invention and construction called the "Serena serenorum." His fame as organist of the Church of San Lorenzo earned him the sobriquet of Francesco degli Organi; alluding to his blindness he was also called Francesco Cieco. He is remembered as a leading representative of the 14th century *ars nova*. Many of his madrigals, canzonas and secular songs survive.

LANDIS, **Kenesaw Mountain**, American justice: b. Millville, Ohio, Nov. 20, 1866. He

was educated at the University of Cincinnati and Union College of Law in Chicago. In 1891 he was admitted to the bar and until 1905 he practiced law in Chicago except for a two-year term as private secretary to United States Secretary of State Walter Q. Gresham. President Theodore Roosevelt appointed him United States district judge of the northern district of Illinois in 1905. In 1907 he presided at the trial of the Standard Oil Company of Indiana rebate case, imposing a fine of \$29,240,000. This record-breaking fine was, however, later revoked on appeal. In 1920 he was elected the first commissioner of organized baseball in wake of the Black Sox scandal of 1919. Landis resigned from the Federal bench in 1922 to carry out his duties as commissioner. Until his death on Nov. 25, 1944, he ruled over organized baseball with a firm hand. His honesty and integrity did much to restore the reputation of major league play.

LANDLOCKED SALMONS comprise two species, *Salmo salar sebago*, from eastern Canada and northern New England, and *Salmo salar ouananiche*, a Canadian form most abundant in the Lake St. John area in Quebec. Both are confined to fresh water where they are popular game fish. The Sebago salmon averages five to ten pounds depending on favorable locality and has been known to reach a weight of 35 pounds. The ouananiche, a more northern form, averages two or three pounds and occasionally reaches eight. Spawning migrations typical of salmon do not occur in the case of the ouananiche and in the Sebago are confined to fall journeys upstream. These fish do not die after spawning.

Consult La Monte, F. R., *North American Game Fishes* (New York 1945).

LANDLORD AND TENANT, the legal relationship created by contract wherein the owner of property, known as the landlord or lessor, leases his property, which may be land or buildings, to a person designated as the tenant or lessee. Historically, the relation originated in the practice of infeudation in the Middle Ages, when all holdings were a chain of vassalships, when even kings did homage for portions of their possessions, and no property was held by any but kings, except as vassal to some overlord. The feudal incidents were abolished by the English statute of Quia Emptores in 1290. The modern mercantile relation of lessors and lessees is the creation of statute, judicial decisions and the specific agreements of written contracts. (See LEASE.)

The mutual obligations of the contracting parties in law are natural consequences of the relation. The landlord on his part must provide quiet enjoyment of the premises for the period agreed upon. This includes protection of the tenant from disturbance by the landlord, his other tenants, or anyone claiming a better title to the landlord. However, the landlord is not obliged to protect the tenant from nuisances caused by outsiders. He must make any repairs agreed upon in the lease, if one exists. He must pay all taxes, assessments and interest on any mortgages, if the lease does not assign this obligation to the tenant. He has the legal right to evict a tenant for non-payment of rent or for any other breaches of conditions contracted for. The landlord must comply with existing sanitary regulations. In some states he must also provide heat, hot water, and elevator service

for apartment or apartment hotel occupancy. Rent control and other rights of the landlord were suspended or restricted by emergency legislation during World War II. (See RENT.)

The tenant for his part must pay the rent according to contract. He must use the premises in a proper manner and only for the purposes specified in the lease. If evicted, he is freed from his obligation to pay rent. He may sublet or assign his tenancy unless prohibited from so doing by terms of the lease. He must not commit waste resulting in permanent injury to the property and he is often bound to undertake reasonable repairs necessitated by his occupancy.

Tenancies may be classified according to five general types. (1) A *month-to-month* or *period-to-period tenancy* is one which usually occurs when the tenant has no lease and the rent agreed upon is payable on a monthly, weekly, or quarterly basis. For termination of such tenancy many states require a month's notice or notice corresponding to the period agreed upon for occupancy.

(2) *Tenancy for years* occurs when an express contract is made by the parties. No notice is required to terminate the tenancy which ends when the prescribed term expires. If the tenant remains thereafter the estate becomes a year-to-year or period-to-period tenancy.

(3) *Year-to-year tenancy* is automatically renewed each year unless due notice is given. State law differs on the notice required to terminate such occupancy but it must always be given at the end of a yearly period. At common law six months notice is required.

(4) *Tenancy at will* has no specific term of occupancy set and it may be terminated by the desire of either party. Many states now have statutes requiring notice.

(5) *Tenancy at sufferance* occurs when the tenant remains in possession of the premises after his legal right has expired. He is liable for the rent so long as he remains on the premises and he is not entitled to notice from his landlord. Historically, this type of tenancy protected the tenant from being treated as a trespasser until the landlord either went to court or re-entered his property. Actually, it remains a legal fiction since such tenancy becomes tenancy-at-will if the landlord consents to continued occupancy when the tenant's term has ended.

As implied above tenancy is dissolved when the term contracted for has ended. It may also be terminated by forfeiture when the tenant fails to fulfill his legal obligations, by voluntary surrender, or by a merger of interests.

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LANDO or **LANDUS**, pope: r. 913-914. Little is known of this pontiff except that he reigned about six months, was a worthy man, and bestowed a privilege on a church in his native Sabina.

LANDOIS, län-dwä, Hermann, German zoologist: b. Münster, Germany, April 19, 1835; d. there Jan. 29, 1905. He entered the priesthood in 1859, but subsequently devoted himself to natural history studies, and in 1873 he was

appointed professor of zoology at the Academy of Münster and head of the zoological museum. He is the author of 'Sound and Voice Apparatus of Insects' (1867); 'Text-Book of Zoology' (1870); 'Text-Book of Botany' (1872); 'Voices of Animals' (1875).

LANDON, Alfred Mossman, American statesman: b. West Middlesex, Pa., 9 Sept. 1887. He was educated at Marietta (Ohio) Academy and was graduated in law at the University of Kansas in 1908. Disliking the law he never practised but went into banking. This indoor job also proved distasteful and, like his father, he became an independent oil producer. In 1915 he married Margaret Fleming of Oil City, Pa., and settled in Independence, Kans. Mrs. Landon died in 1918 and soon after Mr. Landon enlisted in the Chemical Warfare Service. He had spent five months in training when the armistice came. In 1930 Mr. Landon married Theo Cobb of Topeka, Kans. Early taking an interest in politics, Mr. Landon and his father

ame Roosevelt insurgent Progressives in 2. However, he remained unknown beyond Congressional District (the Third) until 2. In that year he became private secretary Governor Allen with the understanding that would be required to serve but a short time. this position he became known throughout State and soon was acknowledged leader of liberal group called 'the Progressives.' In 24, when the Ku Klux Klan endorsed both Republican and Democratic candidates for vernor, Mr. Landon supported the protest rd candidate who filed as an independent. 1928 Mr. Landon was elected chairman of e Republican State Central Committee. In s capacity he directed the Hoover campaign Kansas and elected Clyde M. Reed as Govnor. Two years later he suffered a slight setck when Harry H. Woodring, a Democrat, on the election for Governor. With John amilton he set about strengthening his Reiblican leadership and becoming the harmony ndidate for Governor in 1932, was elected. In 34 he was re-elected. It is claimed for him at he reduced State taxes and balanced the dget. He upheld the State prohibition amendent in the campaign of 1934. By 1935 his riends began to advance his name for the epublican nomination for the Presidency in 936. Adroitly groups of delegates were gartered in the spring of 1936 and when the Republicans met in Cleveland in June he was nominated on the first ballot with Frank Knox of Illinois as his running mate. His speech 23 July accepting the nomination was in large part an indorsement of the Cleveland platform. In the election of 3 Nov. 1936 he carried only Maine and Vermont with a combined total of 8 electoral votes.

LANDOR, A. Henry Savage, English explorer: b. Florence, 1865; d. there, 28 Dec. 1924. A grandson of Walter Savage Landor (q.v.), he was educated at Florence and in Paris. He spent many years in travel, visiting in Korea, China, Japan, India, Nepal, Tibet, South Mongolia, Persia, Beluchistan, the Philippines, Azore and Sulu islands, and in Australia, America and northern Africa. He was the first white man to reach the sources of the Brahmaputra River and established their exact position (Tibet 1897); and was also the first

white man to explore Central Mindanao Island there discovering the Mansakas ("white tribe"). He was with the allied troops on their march to Peking in 1900, and was the first Anglo-Saxon to enter Lhasa, the Forbidden City. He held the world's record in mountaineering. Mr. Landor declared the River of Doubt, which Theodore Roosevelt claimed to have discovered in South America, to have no existence. He served as a dispatch rider during the European War. Among his writings are 'Alone with the Hairy Ainu'; 'Corea, or the Land of the Morning Calm'; 'A Journey to the Sacred Mountains of Siao-on-tai-shan'; 'China and the Allies' (1901); 'In the Forbidden Land' (1898); 'Across Coveted Lands' (1902); 'The Gems of the East' (1904); 'Tibet and Nepal' (1905); 'Across Widest Africa' (1908); 'The Americans in Panama' (1910); 'An Explorer's Adventures in Tibet' (1910); 'Mysterious South America' (1914).

LANDOR, Walter Savage, English poet and author of prose dialogues: b. Warwick, England, 30 Jan. 1775; d. Florence, Italy, 17 Sept. 1864. The literary life of Landor is among the longest in the history of letters; his first book, 'The Poems of Walter Savage Landor,' appeared in 1795; his last work, 'Heroic Idyls,' came out in 1863. He was the eldest son of Dr. Landor and his second wife, Elizabeth Savage, both of ancient families. As a boy Landor showed great love of reading, was fond of trees and flowers and was known for his physical strength and fiery temper. At school near home and at Rugby, which he entered at 10, he was an excellent Latin scholar, and his rebellion against the somewhat arbitrary dictum of his tutor regarding a Latin quantity was the cause of his rustication in his sixteenth year. Two years later he entered Trinity College, Oxford, where he was known for his sympathies with republican government and whence he was expelled the following year for a boyish freak. This led to a quarrel with his father, and in 1794 he left home. For the next 10 years he lived a somewhat nomadic life, fluctuating between London and Tenby, Wales, with short periods of residence in Bath and other intervening cities, and trying his hand at journalism and poetry. In the former field he wrote rather intemperate articles for the *Courier* against the Tory government then in power; in the latter he did some of his best work. Besides 'The Poems of Walter Savage Landor' already mentioned, there appeared in 1798 his long and vague, but often musical, poem, 'Cebir,' and four years later 'Poetry by the Author of Cebir.' The literary influence to which he was at this time most subject was Milton.

On the death of his father in 1805, Landor succeeded to a goodly property, and began to look about for a country place. Finally in 1809 he bought a large estate at Llanthony in Wales, which he conducted in so high-spirited and impractical a way that in five years he sunk £70,000 in it and was obliged to give it over to trustees, who made it yield a sufficient income to support him elsewhere. Meanwhile, in 1808, he had with characteristic enthusiasm enlisted with a company of volunteers in the war for Spanish liberty, but after a few months in Spain returned disgusted with the pusillani-

mousness of the leaders. With equal impetuosity he had, in 1809, married Miss Julia Thullier, a young girl 18 years his junior, whom he met at a dance in Bath. Owing to his unevenness of temper and to the commonplaceness of her mind, the marriage proved, in many ways, to be an unhappy one. In a fit of anger, he went to France without her, in 1814, though they had planned the journey together. During this period he published several books, of which the most important is *Simonidea*, a volume of elegiac verses (1806), some of his Latin poems, *Idyllia Heroica* (1810), and the tragedy *Count Julian* (1812).

Settling first in Tours, Landor was there joined the following year by his wife, and the two then went to Italy. For three years they lived at Como and later in various Italian cities, until, in 1821, the Landors made Florence their home. Here they were for eight years, and here Landor, who had done comparatively little literary work except for the finishing of *Idyllia Heroica* (1820), wrote the books most intimately associated with his name, the *Imaginary Conversations*. The first of these appeared in two volumes in 1824; this was followed by a third in 1828 and by the fourth and fifth in 1829. Altogether the number of conversations was about 80, which was about doubled during the rest of Landor's life. Though not in any sense popular, they were welcomed by the men of letters of the time. In general they express Landor's reflections and feelings on subjects of high importance. Colvin, in his life of Landor, divides them into two classes, the dramatic, represented by the excellent *Leofric and Godiva*, and the reflective to which type the majority conform; but in a strict sense none are dramatic, for the reason that Landor rarely expresses more than his own emotion, and though this feeling is often high and noble, it is not to any notable degree historically accurate. The reflective dialogues express Landor's fine thoughts on a great variety of subjects, the character of which is represented by the galaxy of famous men who serve as his mouthpiece. All in all, the *Conversations* are among the best examples of restrained, polished, classic style that we possess.

In 1829, Landor removed to Fiesole and here, among other works, he wrote *The Citation and Examination of William Shakespeare*, published in 1834. The book is one of his longer pieces but is not so successful as the *Conversations* because of its rather labored humor. Nor is it so good as the two succeeding pieces, which Landor planned or wrote in Italy and published after his return to England in 1835. *Pericles and Aspasia* (1836), his longest single work, is commonly regarded as his most finished production, in regard to beauty of thought and finish of expression. Scarcely, if at all, inferior, however, is the *Pentameron*, the record of a five-days' visit of Petrarch with Boccaccio, a book which contains some of Landor's most mature criticism, as well as the most charming of his descriptive passages, the narrative of Ser Francisco's visit to church. It is on these perhaps as much as on the more miscellaneous *Conversations* that Landor's fame chiefly rests, though the latter by reason of their earlier appearance and the novelty of their form are more commonly coupled with Landor's name.

Landor's work after 1837 is comparatively unimportant, and except for some articles to Leigh Hunt's *Monthly Repository*, a satire, and some *Hellenics*, supplies little new in type. The

most conspicuous volumes were *Last Fruit of an Old Tree* (1853), containing conversations and miscellaneous work, *Dry Sticks, Fagoted by W. S. Landor* (1858), and *Heroic Idylls* (1863).

Criticism is in substantial agreement that Landor occupies a high but not a pre-eminent place in 19th century letters. The excessively cultivated nature of his subjects, the comparative scantiness, and restraint of his production, and the fact that his style is conspicuous for rhetorical graces rather than for natural warmth or broad sympathy, keep him from attaining the highest position either as a poet or as a prose writer, but as the master of polished prose and the writer of isolated passages he has few superiors.

Bibliography.—The standard life is that by John Forster, 2 vols. (1869), now forming the first volume of the standard edition of the works, 8 vols. (1876). Sidney Colvin's life in the *English Men of Letters* is good; it supplies a good list of authorities on Landor.

WILLIAM BREWSTER,
Professor Emeritus of English, Columbia University.

LANDOUZY, län-dōō-zē', Louis (Joseph Théophile), French physician: b. Reims, March 27, 1845; d. Paris, May 11, 1917. He was educated at Reims and at the Paris Medical School, and was graduated there in 1876. In 1880 he was appointed to the Faculty of Medicine; professor of therapeutics, 1893; professor of clinical medicine, 1901; dean, 1901-1917. He became a member of the Academy of Medicine in 1894, and of the Academy of Sciences in 1913. Landouzy is known for his researches in nervous diseases, serums, and syphilis, but especially for his work in tuberculosis. Named for him are Landouzy's disease (spirochetal jaundice), Landouzy-Déjérine atrophy (facioscapulohumeral atrophy—with Joseph Jules Déjérine, 1849-1917), Landouzy's sciatica (neuralgia of the sciatic nerve), Landouzy's purpura, and the Landouzy-Grasset law (with Joseph Grasset, 1849-1918) which states that in lesions of a single cerebral hemisphere the head turns toward the side of the affected muscles if there is spasticity; if there is paralysis, toward the side of the cerebral lesion.

LANDOWSKA, län-dōf'skā, Wanda, Polish musician: b. Warsaw, July 5, 1877. She was trained as a pianist at the Warsaw Conservatory and in Berlin. In 1900 she went to Paris and subsequently became a well-known concert pianist. Her interest in the music of the 16th to 18th centuries, however, led her to conclude that these works should be performed, not on the piano as was customary, but on the harpsichord for which they were originally intended. The campaign for repopularizing the instrument, which she then conducted, led to the establishment in 1925 of her school: L'École de Musique Ancienne, at Saint-Leu-la-Forêt, near Paris. The *Concert Champêtre* (1928) by Francis Poulenc and Manuel de Falla's Concerto for harpsichord (1923-1926) were composed especially for her. In 1940, however, she was forced by the threatened German occupation to leave France, and moved to the United States, where she became known not only for her recitals, but also for her many recordings. To her is largely due the modern revival of interest in the harpsichord. Among her writings is *La musique ancienne* (1908; translated as *Music the Past*, New York 1924).

LANDRAIL. See **CRABE**.

LANDRETH, Burnet, American agriculturist: b. Philadelphia, Dec. 30, 1842; d. Bristol, Pa., Dec. 2, 1928. He was educated at the Polytechnic College, Philadelphia, was captain of infantry during the Civil War, serving in the Army of the Potomac, and after the war period devoted himself to the promotion of higher agricultural and allied interests in many important fields of service. He was chief of the Bureau of Agriculture at the Centennial Exhibition, director-in-chief of the American Exhibition in London and was a member of many American scientific societies; also held honorary membership in similar bodies in European countries, in India and in Japan; and was Chevalier and Officier du Mérite Agricole de France. He founded and was president of the Association of Centenary Firms of the United States and was head of the seed-house of D. Landreth & Sons, established in 1784 in Philadelphia. He published several works on agricultural subjects.

LANDRETH, David, American agriculturist: b. Philadelphia, Sept. 15, 1802; d. Bristol, Pa., Feb. 22, 1880. He was privately educated and joined his father in the seed and nursery business, devoting himself to matters of public interest in agricultural and horticultural lines after he became head of the firm. He was one of the founders of the Pennsylvania Horticultural Society in 1827 and acted as its corresponding secretary in 1828-1836. He was president of the Philadelphia Society for the Promotion of Agriculture and established the *Illustrated Floral Magazine* in 1832. He wrote numerous articles on agricultural and horticultural subjects and edited with Addison Johnson's *Dictionary of Modern Gardening* (Philadelphia 1847).

LANDRY, Auguste Charles Philippe Robert, Canadian author and statesman: b. Quebec, Jan. 15, 1846; d. Dec. 20, 1919. He was graduated from Laval University in 1866; took a course in agricultural science at the College of Sainte Anne and devoted himself to farming. He served in the militia and rose to the rank of lieutenant colonel. In politics he was allied with the Conservatives; he was a member of the Quebec Assembly (1875-1876); was elected to the Canadian House of Commons in 1878, where he served till 1887, when he was defeated at the general election; in 1892 he was called to the Senate. He became president of the Quebec Exhibition Company in 1894, was a member of several agricultural societies and was elected president of the Council of Agriculture in 1896. He wrote *Traité populaire d'agriculture théorique et pratique* (1878); *L'église et l'état* (1883); and numerous papers on political and scientific subjects.

LANDS, Public. See PUBLIC LANDS.

LANDS END, promontory, England (also **LAND'S END**; the ancient **BOLERIUM** or **BEL-LETERIUM**), in Cornwall; the most westerly point in England. It is composed of granite, the face of which is upwards of 60 feet high, covered with turf. The approach from the sea is blocked by a string of rocky reefs, on one of which, Carn Bras, is Longships Lighthouse (built 1793), about a mile offshore.

LANDSBERG AM LECH, länts'bërk äm lëk', commune, Germany, in Bavaria in the dis-

trict (Kreis) of Upper Bavaria (Oberbayern), 34 miles west of Munich; on the Lech River, an affluent of the Danube. There are several churches, notably the 15th-century Liebfrauenkirche and the 18th-century Jesuitenkirche, and a fine town hall which dates from the 17th century. Its medieval fortress has served as a prison in more modern times and was the place where Adolf Hitler was imprisoned after the failure of the so-called Munich Beer Hall putsch of 1923. Here, also, he wrote most of *Mein Kampf*. Following World War II, the fortress was the scene of the executions of several of Hitler's followers. Industries of Landsberg include beer, leather, cartons, and farm machinery. Pop. (1946) 11,917.

LANDSCAPE ARCHITECTURE.

"Landscape architecture is primarily a fine art, and as such its most important function is to create and preserve beauty in the surroundings of human habitations and in the broader natural scenery of the country; but it is also concerned with promoting the comfort, convenience and health of urban populations, which have scanty access to rural scenery, and urgently need to have their hurrying, workaday lives refreshed and calmed by the beautiful and reposeful sights and sounds which nature, aided by the landscape art, can abundantly provide" (C. W. Eliot, 1910).

The changing of the landscape by man to fit his needs for more attractive surroundings and for better economic use has been carried on by him since earliest times. This development of the land has kept pace with the rise and fall of various civilizations down to the present. In our time the profession of landscape architecture is a recognized part of our civilization although it is known by various names, including site planning, land planning, landscape engineering, landscape design, and landscaping. In general, the more competent of the practitioners use the term landscape architecture for their work while those who prefer, for various reasons, to work on a commercial basis are more likely to use the term landscaping or landscape gardening. While civil engineering plays a part in the creative work of the landscape architect, it must be remembered that engineering itself does not deal with aesthetics and is therefore merely one of the several means to the end in view. This adaptation of the landscape to human use in such a manner that the resulting effects will be pleasant to look upon, at the same time producing the most satisfactory uses of the area from the social as well as the economic basis, necessitates, in many cases, some relation to architecture and its forms and types of design. The landscape architect seeks three-dimensional compositions which are attractive; hence the consideration of building forms and masses becomes evident. But the style and type of building changes, not only with the long periods of development by various peoples, but also with the social and economic growth of a comparatively few decades. The development in the use of concrete, steel, and glass has produced a new style of building design since 1900, and of domestic architecture even more recently. This style may seem incongruous in some of the former landscape compositions. As of the middle of the 20th century, all classic detail, along with the symmetrical design of the small outdoor areas adjacent to the house, is not "fashionable," and the pendulum of taste has swung far to the other extremes, with a close analogy to the Romantic

style of the middle of the 18th century, even in communities of fairly dense population. Much has been written on the merits and the faults of the various types of landscape design. The landscape architect selects that type which best suits the social and economic requirements of the problem, the topography, and the climate. The basic problems the designer tries to solve are: (1) the use to be made of the area; (2) the climate; (3) the type of landscape prevalent in the region; (4) the topography. The design requirements for a state reservation or for a national park would not be expected to fit those of a city park or small recreation area, nor would the design elements looked for in a college campus be the same as those for a land subdivision or public housing scheme, though each might accommodate approximately the same number of persons.

This changing of the earth's surface by man so as to give him aesthetic pleasure as well as economic results dates back to early civilizations in Asia and Europe. Records exist showing that what we today call landscape design was well

This demand for designers skilled in the knowledge of ground forms and vegetation, as well as in matters of architectural composition and the problems of engineering, resulted in the rise of the separate profession—landscape architecture—because the materials and techniques of this field are not sufficiently covered by those of architecture or engineering, and are quite as difficult to master within an ordinary lifetime.

Landscape architecture requires of its practitioner divers abilities, the aesthetic appreciation and the creative power of the artist, together with the executive skill of the businessman; he must have knowledge of architecture, engineering, forestry, horticulture, and of the elements of geology as well. The materials of his art include ground forms, structures in their relation to landscape, vegetation, and the social and economic factors influencing land use for human enjoyment. He cannot be confident that his design is possible of execution or that it will be satisfactory in the end unless he possesses an accurate firsthand knowledge of the ground forms, the vegetation, and the structures; from all of these he must choose the

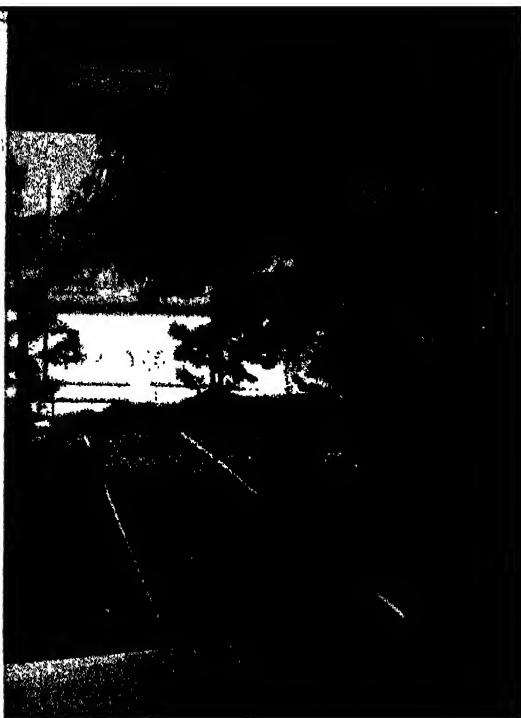
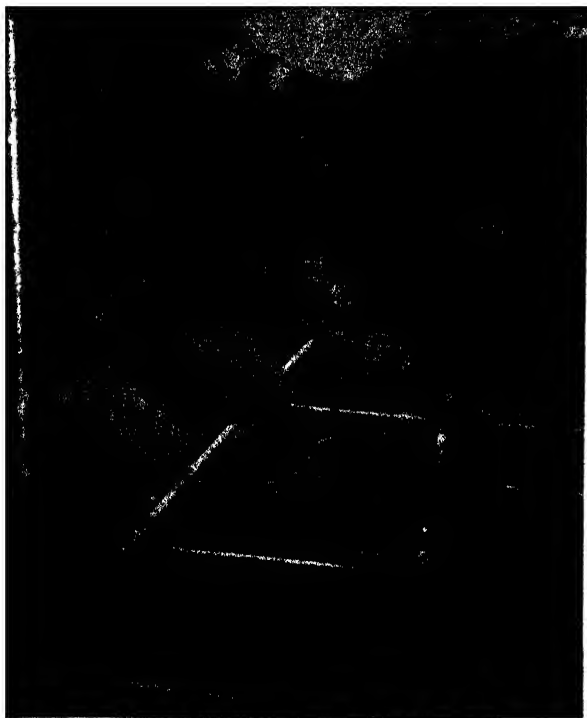


A small glade, Japanese in character.

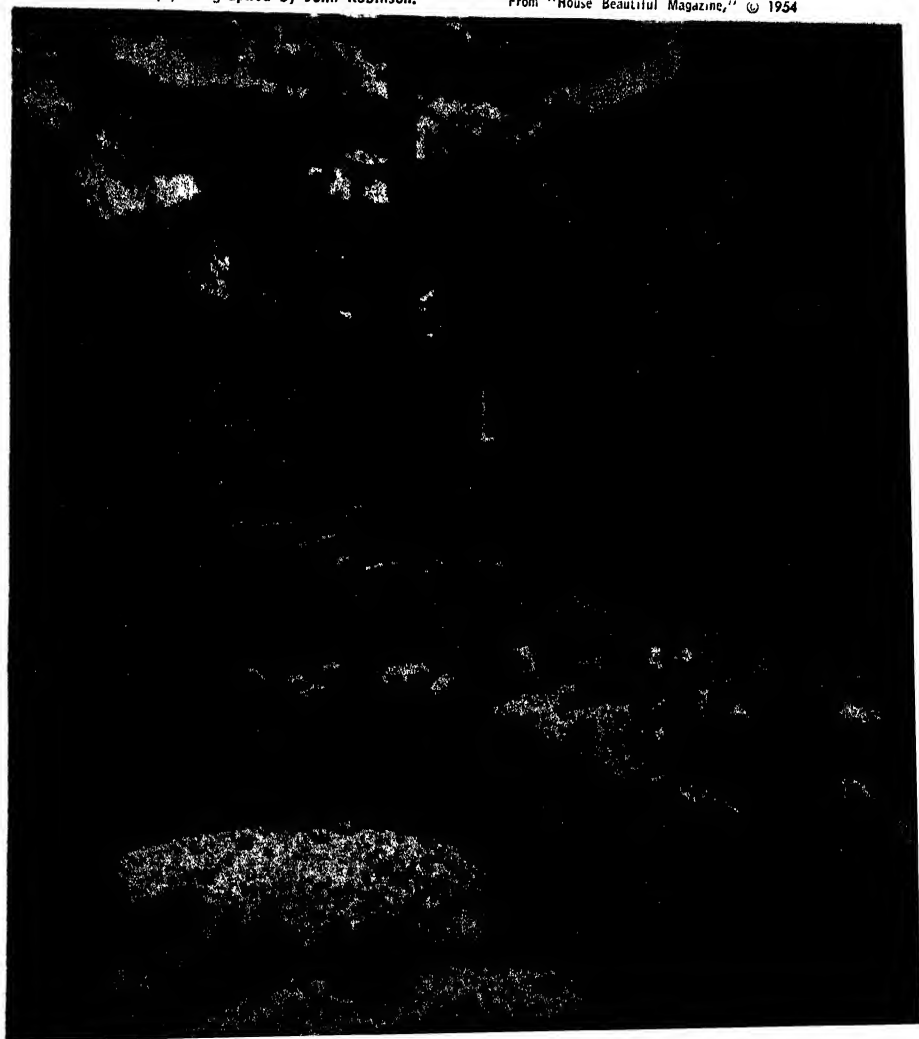
understood and practiced over three thousand years ago. These examples were created in the geometric, symmetrical or "formal" manner and gave satisfaction not only through the aesthetic effects produced but also because they indicated that man had overcome stubborn natural conditions; the changes in the landscape obviously were man-made. This desire of man to impress his will upon natural surroundings continued until comparatively recently; landscape that did not indicate the work of man was neither valued nor understood. The 18th century witnessed a change brought about by various factors; attempts to reproduce natural landscape became the goal of the Romanticist designers. These Romanticists soon went to extremes and absurdities in their designs, equal to those of the formalists whom they had superseded. The Industrial Revolution of the first half of the 19th century led to the general recognition in Europe and America of the value to the public of designed and organized cities, and of parks, reservations, and other outdoor areas, as well as a greatly increased interest in private pleasure-grounds of various kinds.

elements of his compositions. The landscape architect uses materials that are subject to change through the years, ground forms and vegetation being the principal ones in this group; he must know what the ultimate effect will be twenty-five or fifty years hence. Thus the problems are quite different from those of the architect who deals with rigid forms and static masses. In his formal designs of land areas, in close conjunction with buildings, the type of beauty which he seeks may not be widely different from that sought by the architect. But in naturalistic designs the landscape architect must be keenly sensitive to the character of the immediate region in order to be successful in his preservation and enhancement of natural scenery.

Development of Landscape Styles.—The basic factors influencing landscape design are similar to those affecting architecture in the development of the various historic styles. For example, the Chinese designs were influenced by the teachings of Confucius and Buddha that "man is not lord of the universe but merely one of the ten thousand things" and can attain satisfaction and



LANDSCAPE ARCHITECTURE: Above: Two views of a San Francisco garden by Douglas Baylis, landscape architect, photographs by Maynard Parker. Below: California garden designed by Ned Rucker, photographed by John Robinson.
From "House Beautiful Magazine," © 1954



LANDSCAPE ARCHITECTURE



Left: Terrace area of a garden designed by Marie and Arthur Berger, landscape architects, in Dallas, Texas.

Below: A shady spot in another corner of the same garden. The terrace here is of brick paving.



Below: This "Pace Setter" garden in Bronxville, N. Y. was designed by Thomas Church. The several levels of stone paving lend a Greek amphitheater effect to the terrace.

Photographs by Maynard Parker, from "House Beautiful Magazine," © 1952, 1954



ultimate bliss only through close association with and quiet contemplation of nature in its various forms. The ancient Egyptians, on the other hand, developed their art of landscape design in a definitely restricted area and harsh climate, hot and dry, with frequent sand storms, and dependent on irrigation from the river Nile. Here religion, form of government, and the general living conditions all produced a highly organized and regulated life with its consequent development of a formalized, symmetrical type of design for outdoor areas. A somewhat similar situation occurred in ancient Persia. It remained for the Mohammedans there in the 8th and 9th centuries to create designs based on the Koran, that supplied the people with the types of landscape they craved and which they were told they would find in Paradise, luxuriant vegetation and shade, running water and flowers, and pleasant outdoor areas for mental and physical relaxation. Here climate and religion, as the dominant factors influencing the landscape design, succeeded in producing a style that survives to the present day in the warmer climates of Spain, North Africa, and the southwest United States.

The ancient Greeks, on the other hand, believed the natural landscape to be peopled with deities and minor spirits; mountains, woods, brooks, and caves were regarded with religious

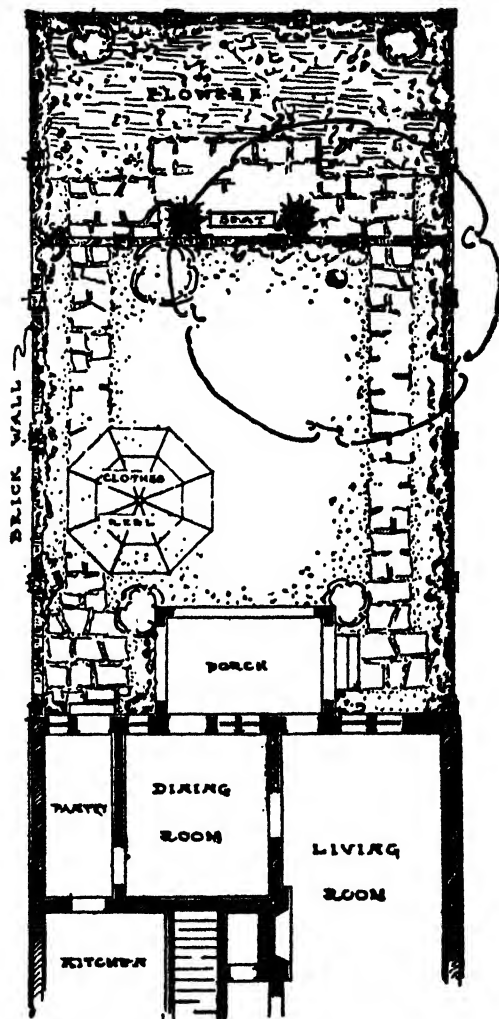


An informal water garden, Japanese in character.

awe—often with fear. As a result their land areas developed for human use and enjoyment were confined largely to the courtyards of dwellings and to a few groves and meadows held sacred for religious observances and meetings. The Greeks may be said to have originated the "urban philosophy" of design, although the placing of their public buildings and temples was based on topography and the demand for physical security.

The Romans, after their conquest of Greece, adapted the Greek form of house, with its interior courts, to their own mode of living. The atrium and peristyle of the Roman house and country villa grew from these small interior courtyards to the great outdoor areas for special uses during the period of the Roman emperors. The enormous scheme of the Emperor Hadrian at Tivoli (125 A.D.) contains the same types of outdoor recreation areas as are to be found in the Laurentine and Tusculan villas (70 A.D.) of Pliny the Younger. Here again we find the influence of climate, topography, and of physical environment to be factors in design. The new cities built by the Romans in their colonial empire gave opportunities for land planning that met the needs of the time to a remarkable degree, though little is left today but scattered ruins and fragments.

After the collapse of the Roman Empire the chief problem was one of personal security; landscape design was influenced primarily by economic, political, and topographic conditions as evidenced by the feudal castle and the walled town. Outdoor pleasure areas appeared only with the slow restoration of political and social stability, though the knowledge of horticulture was kept alive throughout Europe during these "Dark Ages" by the religious establishments of the Christian Church, the Abbey of St. Gall (820 A.D.) in Switzerland being an example. But the inherent desire in man for attractive surroundings gradually produced a change in the land imme-



A city back yard.

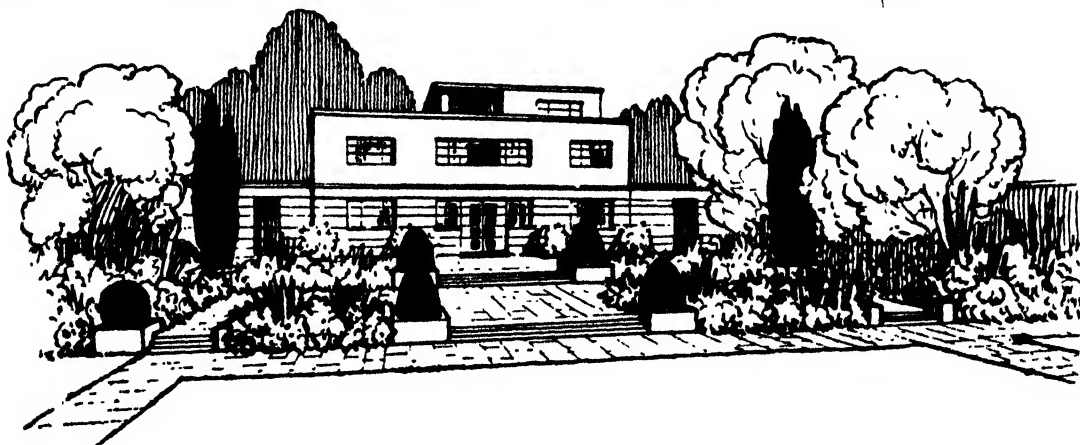
diately adjacent to the castle; various enclosed areas were developed such as the "flowery mead," "pleasaunce," and other special garden plots, and the herb, fruit, and physic gardens. Contact with the Mohammedan civilization during the Crusades brought new life to the European designs through the greater use of colors, the pavilion or tent fountains, and new and decorative plant materials; all this resulted in more attractive appearance and greater intricacy of design in detail and pattern, culminating in the *carreaux* of French pre-Renaissance designs and the "knott" gardens of the Elizabethan era in England. But these outdoor areas were designed to be separate, en-

closed spaces, bearing little or no visual relation to one another or to the house façade.

Then came the Italian Renaissance with its ardent enthusiasm for classic form and detail. The ambition of the landowners was to imitate the villas of imperial Rome, based however on their own interpretations of the descriptions left by the classic writers. The desire and efforts of the papacy to make Rome the artistic as well as the political and religious center of Europe provided the stimulus to greater work. In the early period of development, these Italian Renaissance designs were usually the unified work of one man, often a well-known architect or sculptor, and the designs and details of the various outdoor areas reflect the rise and growth of the style of the Renaissance in the other arts. The site chosen was usually on ground sloping toward the southwest or prevailing winds, with water supply available for cascades, pools and fountains to add to the interest of the outdoor areas related to the house or casino. The typical plan was rectangular, a walled area on rising ground divided into three main design units. These were the parterre or flower garden, the system of terraces with cascades, fountains and pools, and the *bosco* (grove) at the upper end; the house might be

sailles as a hunting lodge (1624), and Rueil (1627).

Under Louis XIV (r. 1643-1715) was developed the "grand style" through the ability and enthusiasm of André Le Nôtre (1613-1700) and the unlimited funds supplied by the king. Le Nôtre recognized that the Italian designers had shown in their villas a feeling for the beauty of water, displayed in increasingly ingenious ways; for the relief of shade and its contrast in design with sunlit areas; for the inspiration of the open, distant view; and a feeling, never as yet elsewhere equalled, for effective formal design in materials of architecture and vegetation. Le Nôtre succeeded in producing similar effects but on a huge scale. The climate, topography, and water supply were not the same as in Italy and the king required outdoor areas adequate for as many as seven thousand persons attending the court at Versailles, in contrast to the one or two hundred likely to be entertained at an Italian villa. It was also the period of colonial expansion, and new plants were sought and introduced from America and Asia. Although they could not duplicate the scale, the French nobility copied the pattern of Versailles in reorganizing their own estates, and elaborate formal plans were carried



Terrace garden for a modern house.

placed in relation to any one of these three. During the three centuries of development, the Italian designers constantly sought new forms and more grandiose effects until they finally arrived at a type of layout characterized by curvilinear lines and paths, extraordinarily restless and varied statuary, along with ingenious devices and tricks in the use of water until this desire to produce novel and startling effects could go no further and the decadent period of the Baroque gave way to the Romantic and naturalistic styles through the influence of England and France.

The invasions of the Italian peninsula by the French kings in the latter part of the 15th and early 16th centuries led to definite changes in French landscape design through the importation of Italian artists; they soon found that Italian villa layouts could not be reproduced in France because of the differences in climate, topography, and social and economic conditions. What little they were able to accomplish was stopped by the religious wars lasting nearly fifty years. Then came a revival of interest under Henry IV, continued by Richelieu and Louis XIII with such places as St-Germain-en-Laye (1610), the Luxembourg in Paris (1615), the beginnings at Ver-

out in rapid succession throughout the country. The rest of Europe was so greatly impressed with the result that the principles of design as developed by Le Nôtre dominated all countries for the next hundred years. Austria, England, the German principalities, the Netherlands, Russia, and the Scandinavian countries all attempted to copy the French style. But because of differences in the basic requirements they were unsuccessful in solving local needs and always remained "foreign design" introductions in the eyes of the people. Climate, topography, social conditions were not the same as in France, nor were finances as ample.

This copying of the French style by other peoples of Europe is an outstanding illustration of the fallacy of reproducing in any one region a scheme that has been developed in another under different basic requirements. The general dissatisfaction in England with this "foreign style," introduced by Charles II in 1685, evidenced almost at once by published criticisms and satires, led in about thirty years to the attempt to return to "natural forms" as opposed to the symmetrical, obviously man-made designs. The idea that "Nature abhorred a straight line"

LANDSCAPE ARCHITECTURE

Top: An Egyptian design of the 19th century B.C. Note its symmetry and adaptation to climatic conditions.

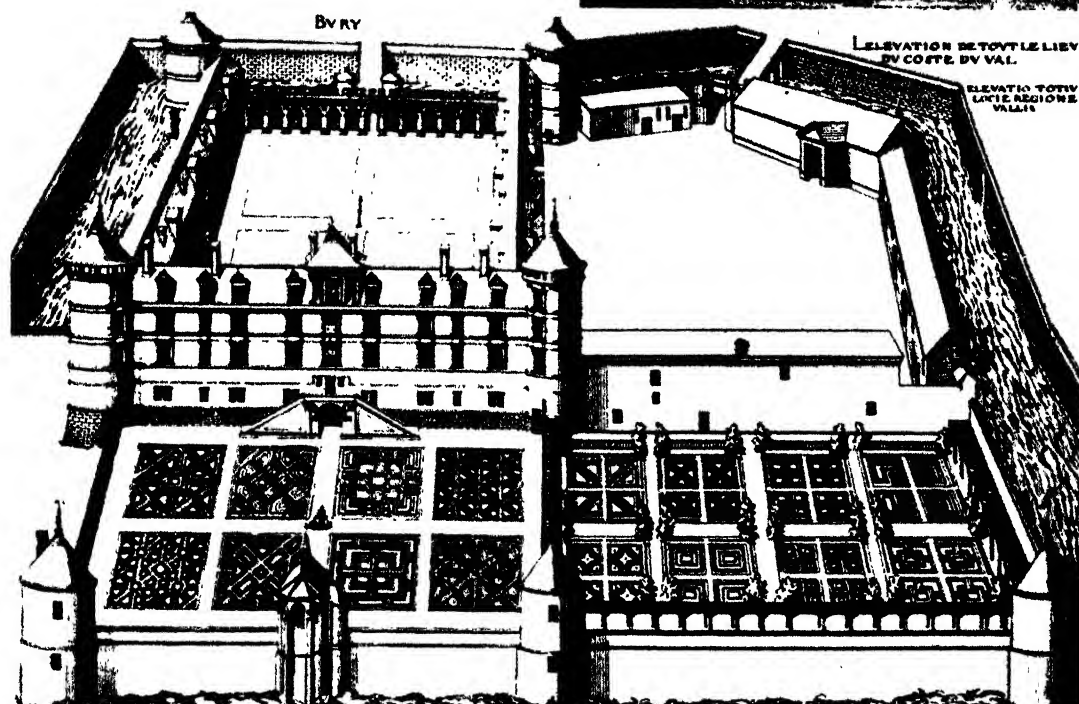
From "History of Art in Egypt," by Georges Perrot and Charles Chipiez (Chapman & Hall, London).

Center: The medieval Château de Bury, France, 15th century, A.D. Note the variety of patterns, unrelated to the structure.

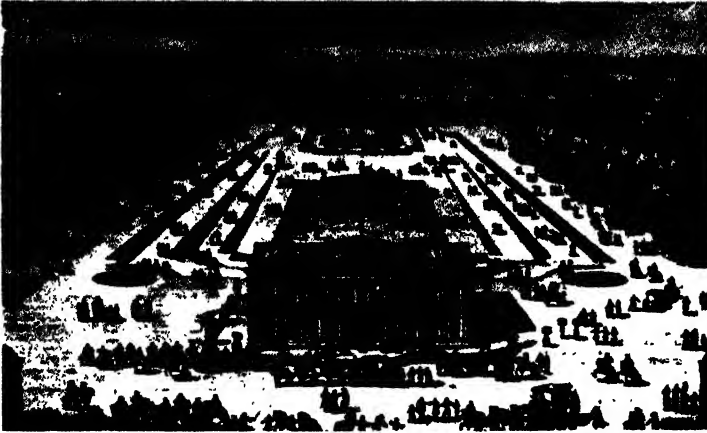
From "Les plus excellents Bâtimens de France," by J. A. Du Cerceau (A. Lëvy, Paris)

Bottom: The Villa Farnese at Caprarola, Italy, 16th to 17th century A.D. Symmetrical composition with water as decoration.

Photograph courtesy B. W. Pand



LANDSCAPE ARCHITECTURE

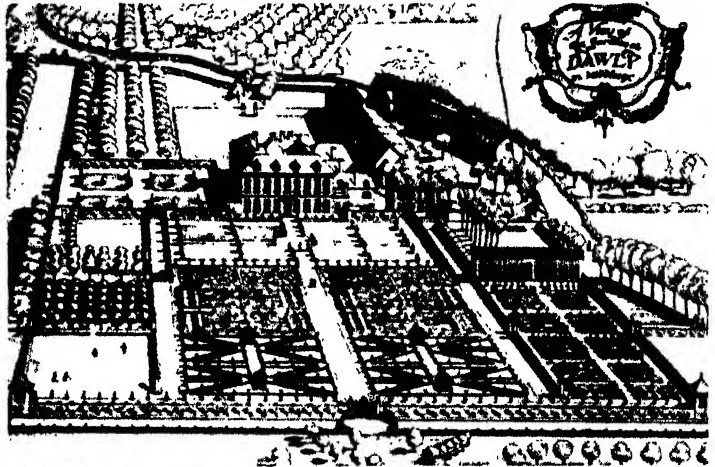


Large open spaces for crowds and symmetrical design were emphasized in the French Renaissance style of the 17th and 18th centuries.

From an engraving by Gabriel Perelle (c. 1680)

Note the conflict of French symmetrical forms and the local need for conserving space in this English Renaissance manor of the 18th century.

From "Formal Gardens in England and Scotland," by H. Inigo Triggs (B. T. Batsford, London).

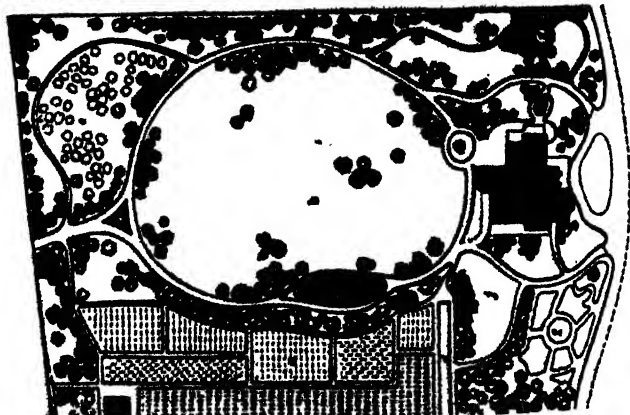


A French garden in the romantic style of the 19th century. Symmetry has been dropped in an attempt to get back to nature; the buildings become the accent points.

From "Description des nouveaux Jardins de la France," by Alexandre de la Borde (L'imprimerie de Delance, Paris).

An American suburban villa of the 19th century, designed by A. J. Downing. Note the lack of symmetry and the utilization of large amounts of space.

From "Gardens of Colony and State," compiled and edited by Alice G. G. Lockwood (Charles Scribner's Sons, New York).



was fostered and accepted as the new doctrine; this was stimulated also by the growing enthusiasm for the Far Eastern trade, especially with China. It soon became apparent that the members of this new school of thought understood the Chinese philosophy of design even less than they did the French principles. In the wake of this English enthusiasm other European countries perpetrated much that gave real credit to no one, and the Anglo-Chinese fashion was short-lived in landscape design though it is still apparent in furniture. The Romantic style, of which the Anglo-Chinese was a phase, substituted the formless for the formal and the Romantic as the symbol for aesthetic unity before it settled down to the more rational landscape style of Humphry Repton (1752-1818) in England and of Hermann von Pückler-Muskau (1785-1871) in Germany.

By 1800 the pendulum of taste was swinging back to classical forms and a modified type of symmetry in landscape designs as well as in architecture, as shown in the Napoleonic era on the Continent. The first third of the 19th century produced in Europe as well as in America rapid changes in living conditions. New problems arose for the treatment of the landscape; one of these was to provide outdoor space for others than the wealthy landowners. The social reforms inspired by the American and French revolutions, com-

ation, probably one of the earliest examples of what today we know as a public park.

The work of Repton in England inspired the park-like estates in America with which Andrew Jackson Downing was familiar, and the tradition of which he followed in his own designs but with increasing emphasis on the use of native vegetation. At the time of his death (1852), the industrial growth of the United States had begun to cause congestion in the towns and cities, and Downing was a leader in the movement to ameliorate the life of the crowded areas by the provision of public parks. William Cullen Bryant and many others not landscape architects also took an active part in this campaign for social betterment. The style of naturalistic landscape design developed to meet this need was the work of Calvert Vaux (1824-1895) and Frederick Law Olmsted (1822-1903); it is characterized by compositions of open meadows enclosed and diversified by woods, in which the public may find a sense of seclusion as well as of relief from the insistence of urban surroundings. The first project was Central Park, New York City (1858), followed by Prospect Park in Brooklyn (1876) and Frank-



Corner in a small garden.

bined with the industrial development that followed within a few decades, made necessary the provision of open spaces where the people moving into densely populated centers could have rest and relaxation under naturalistic, "country" surroundings. Among the early examples of this new type of design are Birkenhead Park (1845) near Liverpool by Sir Joseph Paxton, and the Bois de Boulogne in Paris (1853) by Jean Charles Adolphe Alphand.

Contemporary with the Renaissance in France, the Mogul dynasty in India was creating designs of Persian-Mohammedan character on a very large scale. These projects met the requirements of climate and court life with shaded areas and open sunlit spaces, pools with jets of fine spray to cool the air, flowers in masses for color and perfume. These Mogul gardens rival in size and magnificence the work of Le Nôtre in France and include such places as the Shalimar gardens in Kashmir (1619) and in Lahore (1634). The outdoor areas within the enclosures of the "forts" or citadels were of similar character, though more obviously planned on the Koran's description of Paradise with its "four-way river" and the "island of the blessed" at the intersection. The Taj Mahal (1632-1645) was endowed by Shah Jahan for the purpose of maintaining it in perpetuity for all peoples as a place of rest and relax-



Garden seat as a terminal feature.

Note: Five illustrations from *Garden Design of Today* by Percy S. Cane, courtesy Methuen & Company, Ltd. "A city back yard" from *The Design of Small Properties* by M. E. Bottomley, courtesy The Macmillan Company.

lin Park in Boston (1886). In these three parks the style is found at its best, a style which has had a profound influence ever since on the work of the landscape architect both in the United States and elsewhere. Other practitioners extended the park movement in the Western states, particularly Horace William Shaler Cleveland (1814-1900) who also pointed out through his writings the necessity for the application of the principles of landscape architecture to the planning of new towns. Charles Eliot (1859-1897), later a partner of Olmsted, is especially known for his activities culminating in the park system of Boston with its outlying reservations and circumferential parkways (1893). The work and writings of both Olmsted and Eliot influenced park development extensively, as in such cities as Cleveland, Chicago, San Francisco and St. Louis.

Large private estates as well as smaller properties in the United States followed the general character of park design up to the early years of the 20th century. In Europe this was also true where new projects and many of the older places were altered to give a park-like atmosphere and open views combined with formal gardens near

the house. The period from 1910–1930 witnessed in the United States the extensive copying and adaptation of foreign styles of architecture in the design of private residences, with a corresponding treatment by the landscape architects of the outdoor areas; these types included Georgian, French, Italian, Spanish, and Tudor, and with few exceptions met the requirements of the client with apparent satisfaction. But the economic depression of the 1930's and the subsequent economic changes raised maintenance and construction costs to a point that prohibited further development and also brought about the loss and destruction of many of these designs. The two world wars brought new problems for the landscape architect. These were generally of a public nature, including the site-planning of army installations and camps, large recreation areas, government housing projects and industrial developments. This volume of work produced a demand for trained and competent landscape architects greater than the supply, with the result that none were out of work in their own field even in the depression years. The importance of the profession is recognized by the federal government and other public agencies; in the field of public housing the law now requires that a landscape architect be one of the team of three—architect, landscape architect, and engineer—responsible for the plans. The collaboration of these three professions proved its value by the results achieved.

In Europe between 1830 and 1930 landscape architecture was not recognized as a separate profession to the same degree as in the United States. Since then, however, the developments in England and Scandinavia have been similar to those in America, especially in town planning and other work of a public nature. One reason for this apparent lack of recognition of the importance of the landscape architect may be due to the fact that the European countries have far less new and undeveloped land to deal with, since their properties are developed and in intensive use. But the value to the public of the preservation of natural landscape is becoming realized, especially in England, as evidenced by the formation of the National Trust (founded 1895), a society "for the preservation of places of historic interest or natural beauty," and in other activities.

The two world wars with their accompanying disruption of former economic and social orders also brought dissatisfaction with the existing styles in the arts. Definite attempts were made in France and Germany to develop new forms, new modes of expression and new vocabularies for architecture, painting and sculpture. The new structural materials provided the stimulus in architecture, for example, and the results, sometimes referred to as "modern" or contemporary design, had their effect also upon landscape design. The vociferous proponents of the new style were active in their condemnation of all historic pattern and detail, of all that was formal or symmetrical in appearance; they sought new and different compositions. While this quest for new forms might be achieved in the static materials of architecture it was less easy to produce successful solutions in the materials used by the landscape architect—vegetation and ground forms—except in the small confines of a house yard or immediate surroundings. Here the results appear as ingenious ground patterns, plant forms of unusual or exotic character, and frequent use of the new structural materials, such as glass and plastics, as decorative

features. Many of these are interesting and some are successful as landscape designs within a limited field, yet many are so obviously the attempts for something different that the aesthetic satisfaction in the result is lacking.

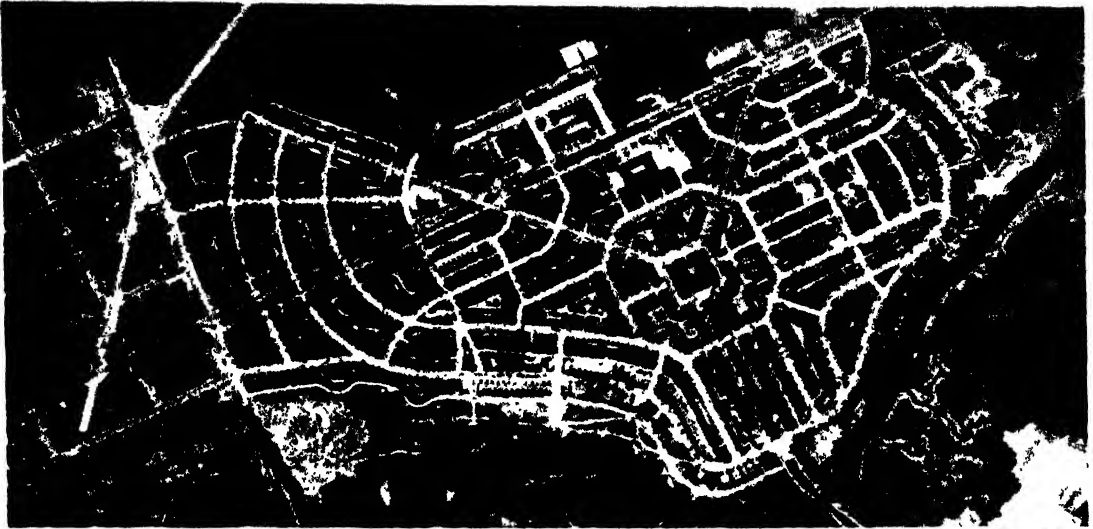
From the viewpoint of the historian, this situation is analogous to that of the middle of the 18th century in England when the pendulum of taste swung to an extreme in opposition to the old traditions. There is reason to feel that in due time it will become more stabilized and result in the development of a new and national style of design.

Training for the Profession.—The apprentice system in private offices was the only means of acquiring the experience and training needed to become a landscape architect until the early years of the 20th century. In 1901 the first professional, technical course was established at Harvard University and almost immediately placed on a graduate basis; this action was followed rapidly by other colleges in various parts of the country. In 1928 the American Society of Landscape Architects (incorporated 1899) published a statement outlining what it considered to be the essential subjects required for the training of a landscape architect and the minimum amount of time that should be given to these various courses in an acceptable professional curriculum. This *Outline of Minimum Educational Requirements* has served to strengthen the field of education. Instruction is offered in 23 colleges and schools in the United States, 11 of which meet the standards set up by the professional society. All these courses, with the exception of the graduate course given at Harvard University, are given on the undergraduate level, although schools provide options for a continuance in advanced study and research. Compared with other professions, such as architecture and engineering, the field of landscape architecture is not a "crowded" one, the total enrollment in the various colleges in 1950 for this work amounting to 727 students. The total membership of the professional society is approximately 800.

In Europe the training remains under the apprentice system to a considerable extent, due to the lack of technical instruction in the colleges and universities. But in England several courses are being established through the efforts of the British Institute of Landscape Architects, as those at Durham, Liverpool, and London. With the exception of those who enter the field of landscape architecture through city planning, the approach tends to be through that of horticulture, or architecture, rather than engineering. This progress in the training and employment of the landscape architect is more apparent in England and Sweden than in other countries of Europe where the problems are handled to a large extent by those trained in horticulture or with an architectural background. The British Institute of Landscape Architects established in 1930 under the active leadership of Brenda Colvin, Geoffrey Alan Jellicoe, Thomas H. Mawson, Richard Sudell and others is largely responsible for this development in the profession. For example, in 1949 a National Parks and Access to the Countryside Bill was proposed to protect areas of outstanding natural beauty.

The establishment of an International Conference of Landscape Architects in 1946 and the holding of annual meetings in different countries is proving to be an effective stimulus to the pro-

LANDSCAPE ARCHITECTURE

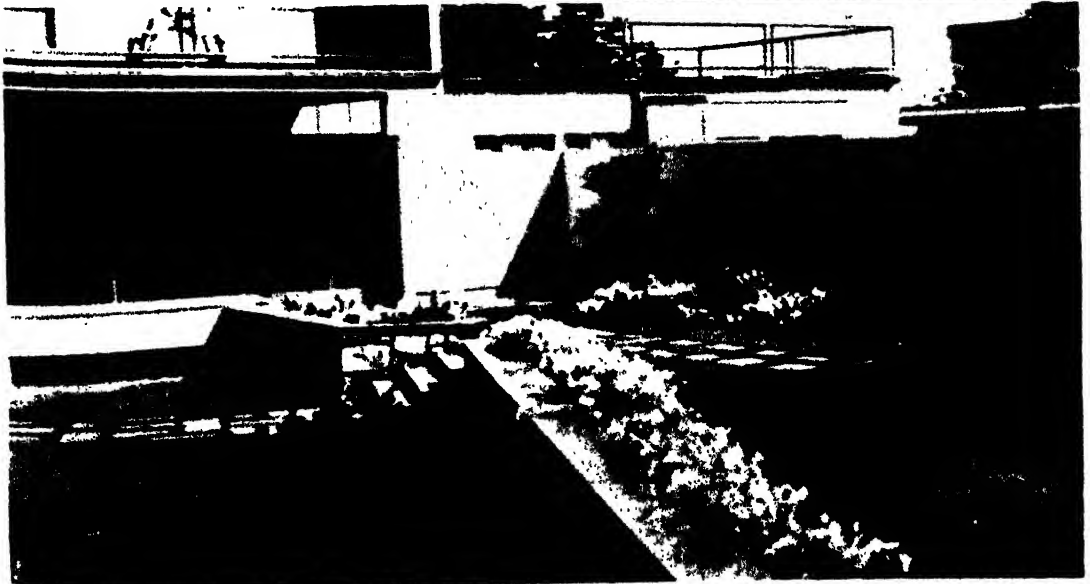


EXAMPLES OF CURRENT LANDSCAPE ARCHITECTURE

Top: Aerial view of a planned community: Yorkship Village, Camden, New Jersey.

Right: Fort Tryon Park on upper Manhattan Island, New York City, along the Hudson River. The Cloisters, a museum devoted to medieval art, is seen in the upper center.

Bottom: A contemporary garden at Lincoln, Massachusetts.



LANDSCAPE ARCHITECTURE



EXAMPLES OF CURRENT LANDSCAPE ARCHITECTURE

Top: Flushing Meadow Park, New York, N. Y., on the former site of the New York World's Fair. Gilmore D. Clarke, landscape architect. Center: A modern community: Baldwin Hills Village, Los Angeles, California. Bottom: An example of parkway planning: Hutchinson River Parkway near New Rochelle, New York.

LANDSCAPE ARCHITECTURE



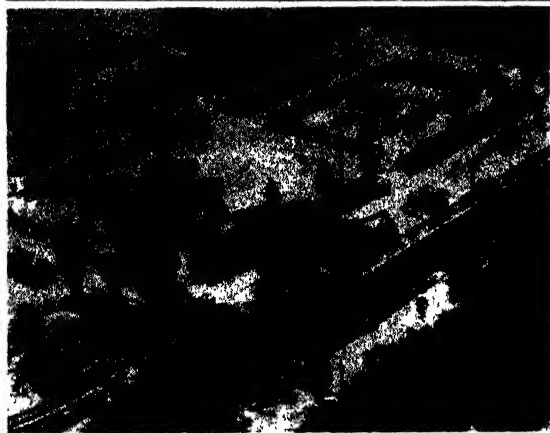
EXAMPLES OF CURRENT LANDSCAPE ARCHITECTURE.

Top: An example of formal garden design

Left: A contemporary garden in England.

Bottom: One answer to the problem of integrating a museum's grounds with the building itself, Cleveland, Ohio.





EXAMPLES OF CURRENT LANDSCAPE ARCHITECTURE.

Top: Landscape architecture applied to a public picnic area: Genesee Valley State Park, New York State.

Left: Carl Schurz Playground, New York, N. Y.

Lower center: The zoo in Central Park, New York, N. Y.

Bottom: A section of Jones Beach, Long Island, New York. The bathing areas are at left and lower right; the immense parking areas at upper right.



fession both in its work and in the interchange of professional ideas; the meeting in Spain in 1950 was attended by 172 delegates representing 22 different countries.

Practice of Landscape Architecture.—Each typical, well-defined use of the land has its characteristic effect on the composition, no matter what the other circumstances may be. Because of this the work of the landscape architect falls into classes according to land usage. This practice includes many problems ranging from the planning of home grounds to the larger ones of parks, parkways, playgrounds, the various types and sizes of land subdivisions, school and college grounds, cemeteries, housing, industrial development, airports, controlled access highways, city and regional planning; many of these may be undertaken by either public or private agencies and the work done by persons practicing on a professional basis, through their own offices, or as employees of public, state, or federal organizations. In some cases the landscape architect may serve as the consultant to the individual client, group or agency. The professional practitioner, whether or not he is a member of the American Society of Landscape Architects, receives his remuneration directly from the client and has no financial interest whatsoever in the labor, materials, or persons supplying the same for the project; his fee may be a lump sum for a stated piece of work, a percentage charge on the total costs, or a charge per day, or on a time basis. Those preferring to work on a commercial basis—and many of these do excellent work as designers—receive some part of their remuneration through a profit derived from labor or materials or both. Similar methods are followed in all countries by both groups. In his practice the professional landscape architect tries to meet the demands of each problem with a design which combines the maximum of aesthetic and economic excellence possible under the given conditions of topography, soil, climate, and financial means available. No two problems are ever exactly alike; it is seldom that design details can be successfully standardized, as in architecture or in engineering. Collaboration between the landscape architect and the architect occurs on problems of the private estate, and where architectural structures play an important part in the outdoor compositions. During World War I collaboration developed further to include the civil engineer on the design of communities, army cantonments, government war housing, industrial plants and similar problems. This collaboration has continued to expand ever since, until most federal agencies now require a landscape architect for the site-planning and other phases of the development of the land, acting as one member of the design team along with the architect and engineer. Another field of collaboration is that of city planning, and here the landscape architect works with the engineer, architect, sociologist, economist, and lawyer; but the delimitation of this field cannot be territorial, as in the case of a building and its grounds, but must be according to the subjects in which the various collaborators are severally skilled. As in other instances, the best results are obtained when each collaborator appreciates the point of view of the others and has a sound fundamental conception of the entire problem before him.

The types of work done by landscape architects in other countries vary with the existing

social and economic conditions. In Canada, for example, the field of activity is similar to that of the United States. The president of the British Institute of Landscape Architects, Geoffrey A. Jellicoe, stated in 1943 that, in England, the landscape architect is complementary to the architect and civil engineer and town planner; that he is concerned with scenery, parks, and gardens; with afforestation, agriculture, and all open spaces; with the disposition of houses, industries, and other buildings thereon; and with the relevant means of transport. Problems of estate design, following World War II, are less numerous than in the United States, but a great deal of work is being done on public projects and in town planning through collaboration with the other professions. The situation on the Continent is very similar, with the emphasis on works of reconstruction and rehabilitation to the point where few private projects are undertaken. The development of large areas of natural landscape for preservation and the enjoyment by the public is just beginning in England, while in the other countries there are no notable results. In Denmark, Norway, and Sweden the activity of the landscape architects appears greater than elsewhere, especially in Sweden where their work in the problems of housing, recreation, and park design has aroused much attention in the United States, as well as favorable comment in view of the design factors of rigorous climate, topography, and social requirements. The solutions, simple, straightforward and functional, appear to call for the minimum of maintenance—an economic factor of importance.

From earliest times till the eighteenth century landscape architecture was appreciated and enjoyed by relatively few persons. Nevertheless it always exerted an influence on the culture of each people by its stimulus to outdoor recreation and to the appreciation of pleasant surroundings. The social and economic changes during the past two hundred years have completely changed this enjoyment by few to appreciation by many. Undoubtedly the profession will become more active in the future in all forms of land development for human use where good appearance of the result is considered.

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LANDSCAPE GARDENING. See **LANDSCAPE ARCHITECTURE**; **HORTICULTURE**.

LANDSCAPE PAINTING, the painting of natural outdoor scenery as distinguished from portrayals of the human figure, still life, or interior scenes. Until the late Middle Ages it never occurred to anyone that nature was beautiful in itself, and the idle contemplation of natural scenery as a source of pleasure would have been considered reprehensible. By the 12th century, however, formal gardens had come into being and certain aspects of nature began to be represented by artists. The first true landscape painting may be said to have started in the 14th century, when the frescoes in the pope's palace at Avignon were painted (1343). The idea may have been taken over into painting from decorative tapestries.

Gothic Landscape.—Landscapes of a rudimentary sort were employed as backgrounds in religious paintings from the time of Giotto (1276?-1337) onward. They came into much more general use in the 15th century. These landscapes were usually wild and rough with forbidding, fantastic-looking mountains—scenes that the artist felt were suitable to the mood of his picture rather than any particular view he had actually observed. In contrast were the more intimate garden scenes sometimes connected with the Garden of Eden, sometimes with symbolic stories of ladies and unicorns. The passion of the aristocracy for hunting also stimulated artists to represent outdoor scenes.

The so-called International style practiced in the early 15th century by such Italian artists as Gentile da Fabriano (1360/70-1427), Il Pisanello (Antonio or Vittore Pisano, c.1395-c.1455), and Benozzo Gozzoli (1420-1497) provided the most elegant of all early landscape settings. Gozzoli's *Journey of the Magi* (1459) in the Riccardi Palace in Florence is the most elaborate of these fanciful late Gothic landscapes. At the same time, it marks the end of an era, for new forces were at work and a new vision had already come into being. The Renaissance had dawned in Florence and meticulous realism held sway in Flanders to the north.

Northern Renaissance.—The Flemish brothers Jan (1370?-1440) and Hubert van Eyck (1366?-1426) introduced enchanting magical backgrounds which may be considered the first modern

landscapes to appear in northern Europe. They were so carefully observed that they must have been based on sketches actually made from nature.

In Germany during the last decade of the 15th century Albrecht Dürer (1471-1528) did a series of water colors direct from nature which are as fresh and as exactly "seen" as the work of contemporary artists. Albrecht Altdorfer (c.1480-1538) portrayed the German forest in exquisite detail, and Matthias Grünewald (1470?-1531) painted eerie landscape backgrounds to add intensity to his dramatic religious themes. The Flemings were the first, however, to render a true sense of distance, a conception of real space, through the manipulation of light and atmosphere.

Pieter Brueghel the Younger (1564?-1638) stands out as a great master of landscape in which fact and fantasy are mingled. The great Dutch landscapists of the 17th century were more matter of fact. Jacob van Ruysdael (c.1628-1682) was the most important specialist in this field with Albert Cuyp (1620-1691), Meindert Hobbema (1638-1709), Adriaen van de Velde (1636-1672), and Jan van de Cappelle (1624-1679) as secondary figures. Rembrandt van Rijn (1606-1669), on those few occasions when he turned to landscape, produced the most moving, profound, and intense paintings of all. The genius with which he depicted the inner aspects of human beings was equally discernible when applied to landscape.

Italian Renaissance.—In Italy Piero della Francesca (1420?-1492) made great strides in landscape, and Giovanni Bellini (c.1431-1516) in Venice made an equally great contribution. Leonardo da Vinci (1452-1519) applied his great scientific mind to landscape backgrounds in such great pictures as the *Virgin of the Rocks* and the *Mona Lisa*. From his time on the landscape setting became ever more important in Italian paintings; and Catholic Italy, where the churches continued to be adorned with paintings, enjoyed just as great a flowering of landscape art as Protestant Holland, where church painting was not permitted. The leading Venetian masters contributed much to this development—the lyrical Giorgione (c.1478-1510), the more intense Titian (1477-1576), the dynamic Tintoretto (1518-1594), and the exuberant Paolo Veronese (1528-1588) whose decorations at the Villa Maser (1560) are memorable. The Venetian tradition also produced El Greco (c.1541-1614), whose *View of Toledo*, intense, forbidding, and at the same time ecstatic, is one of the greatest landscapes of all time.

The 17th century saw the birth of "pure" landscape in Italy, as it did in Holland. Most prominent was the group in Rome including the French-born Claude Lorrain (1600-1682). He made sketches direct from nature and evolved them into ideal, romantic conceptions which transcend reality. With him was another Franco-Italian, Nicolas Poussin (1594-1665), whose work was far less poetic and more classically well ordered, with everything in its place and nothing left to chance. Salvator Rosa (1615-1673) depicted the wilder, more forbidding aspects of nature, which in the 18th and early 19th centuries were termed "sublime." In 18th century France Jean Antoine Watteau (1684-1721), Jean Baptiste Joseph Pater (1695-1736) and Jean Honoré Fragonard (1732-1806) did delightful rococo landscapes peopled with actors of the Italian *Commedia dell'Arte* or with elegantly dressed members of the court, gay compositions which were called *fêtes gallantes*.



Courtesy of Museum of Modern Art, gift of Mrs. J. D. Rockefeller, Jr.



Courtesy Metropolitan Museum of Art

LANDSCAPE PAINTING: (Top) Charles Sheeler's "American Landscape, 1930," and (bottom) Paul Cézanne's "Landscape with Viaduct"; Sheeler's painting, photographic and dealing with the machinations of man, Cézanne's, impressionistic, treating nature simply in design.

The 19th Century.—English collectors in the 18th century were enthusiastic about Italian landscapes, as were such English painters as Richard Wilson (1714–1782). Thomas Gainsborough (1727–1788), though famed for his portraits, was a landscapist of the first order. England's greatest contribution to landscape, however, came in the early 19th century with J. M. W. Turner (1775–1851) and John Constable (1776–1837). Turner's late works, with their dramatic color and dynamic movement, seem to be forerunners of expressionism, just as Constable's luminous scenes of the English countryside lead to impressionism. Constable's *Hay Wain* is a classic of English painting.

In France Jean François Millet (1814–1875), Charles Daubigny (1817–1878), Jules Dupré (1811–1889), and others settled in the village of Barbizon to depict the simple life of the French peasants. They still painted with a dark palette in the studio, but at least they had broken with the old tradition and avoided mythological or historical subjects in favor of the life around them. Jean Baptiste Camille Corot (1796–1875), first attracted to the classical style of Poussin, later developed a feathery poetical style which was ultimately vulgarized by too frequent repetition. Gustave Courbet (1819–1877) brought realism into its own with his vital brush and powerful rendering of the living essence of nature. With the impressionists Claude Monet (1840–1926), Camille Pissarro (1830–1903), and Alfred Sisley (c.1839–1899) came light and sparkling sunshine, clear colors, and the instantaneous vision of a landscape depicted on the spot and at an exact moment of the day. Their experiments with light have had a lasting effect, but their weakness lay in the fact that form was sacrificed to surface effects of light.

Another phase of 19th century landscape was the romantic trend which developed especially in Germany and the United States, with apparently no connection between the two other than a common interest in romantic literature and philosophy. Caspar David Friedrich (1774–1840) at the beginning of the century did craggy northern islands and forests, with people looking nostalgically inward toward the view. In America a similar point of view was expressed by the Hudson River school of landscape painters such as Thomas Cole (1801–1848), Thomas Doughty (1793–1856), John F. Kensett (1818–1872), and later Albert Bierstadt (1830–1902). After these came George Inness (1825–1894), who made a new contact with the main stream in Europe by following the trends of the Barbizon school. Winslow Homer (1836–1910), the great American realist, followed a more indigenous trend with his rugged, forthright scenes of the coast of Maine and the Adirondack woods.

Postimpressionists and Moderns.—The last two decades of the 19th century witnessed more innovations. The postimpressionists brought form back into painting and used color, not scientifically, but emotionally. Paul Gauguin (1848–1903) sought the exotic atmosphere of the South Seas. Vincent van Gogh (1853–1890), painting in the brilliant sunlight of southern France, expressed his inner turmoils in some of the most vibrant and exciting landscapes ever painted. Paul Cézanne (1839–1906), in a more self-contained manner, patiently and slowly built up form from color, painting landscapes that have a solid, firm, eternal quality. Mont-Sainte-Victoire became as much a symbol to him as the rocky heights of Toledo had been for El Greco.

In the 20th century Henri Matisse (1869–1954) continued this heritage of color by painting vivid palpitating landscapes. Followers of Cézanne like Pablo Picasso (1881–) and Georges Braque (1881–) developed cubism, a formal analysis of the basic elements of pure form. Their theories, however, were seldom applied to landscape. By and large the *avant garde*, those who have widened the areas of painting, have confined themselves to people and objects as their point of departure, or have dealt with pure abstract designs. An exception is the American John Marin (1870–1953) who painted the rugged Maine coast in transparent water color, in a style based on cubism. Otherwise 20th century landscape has been the province of neoromanticists like Eugène Berman (1899–), who treats it with a nostalgic backward glance expressed in tasteful color and dashing drawing; and of surrealists like Yves Tanguy (1900–1955) and Salvador Dali (1904–), who fuse the fantasies and irrationalities of the dream world with reality. See also DUTCH PAINTING; PAINTING; sections on art in articles on FRANCE, GERMANY, GREAT BRITAIN, ITALY, NETHERLANDS, and biographies of individual artists.

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LANDSEER, SIR EDWIN HENRY, English animal painter: b. London, England, March 7, 1802; d. Oct. 1, 1873. Hampstead Heath was the scene of some of his early studies, and on one of his early productions now at Kensington his father has written "at the age of five." Following the advice of Benjamin Robert Haydon he studied the Elgin Marbles and the wild beasts at Exeter Change and dissected every animal whose carcass was obtainable.

His life is the record of his works and successes. In the academy's exhibition for 1815 he exhibited the *Portrait of a Mule* and the *Heads of a Pointer-Bitch and Puppy*. In 1818 he contributed several studies of animals to the academy and the British Institution. In that year a picture exhibited at the exhibition of the Oil and Water Color Society in Spring Gardens, *Fighting Dogs Getting Wind*, attracted great attention and set a seal upon his work. In 1820 he painted his *Dogs of St. Gothard*. In 1821 he exhibited *Ratcatchers*, a *Prowling Lion* and other works of great spirit. In 1822 he received the premium of £150 from the British Institution for the *Larder Invaded*. The *Cat's Paw* appeared at the academy in 1824 and was sold for £100. In 1826 he was elected A.R.A., and in 1831 became R.A. In 1827 he exhibited *The Return from Deer-Stalking; a Fire-side Party*, 1829; *High Life and Low Life*, 1831; *Spaniels of King Charles' Breed*, *A Jack in Office*, 1833; *Bolton Abbey in the Olden Time*, 1834; *The Drover's Departure*, 1837; *The Return from Hawking* and the *Shepherd's Chief Mourner*, 1837; *A Distinguished Member of the Humane Society* and *There's Life in the Old Dog Yet*, 1838; in 1840, *Laying Down the Law*; in 1844, *Coming Events Cast Their Shadows Before*, and in 1846, *The Stag at Bay*; in 1849, *The Forester's Family*; in 1850, *A Dialogue at Waterloo*; in 1851, *A Scene from the Midsummer Night's Dream*; in 1853, *Night and Morning* and *The Children of the Mist*. His later works include *Saved*, *Deer-Stalking*, *A Flood in the Highlands*, *A Random Shot* (the most

pathetic of all his works), 'Wild Cattle at Chillingham,' and his celebrated work of sculpture, the Lions in Trafalgar Square. Landseer's pencil was productive, and besides many works not here named he produced portraits of celebrities of the time, that of Sir Walter Scott being in the National Gallery. In 1850 he was knighted; in 1855 he received the gold medal of the Paris exhibition. He declined the presidency of the Royal Academy offered him on the death of Sir Charles Eastlake (1865).

Landseer, notwithstanding his notable work in portraiture, was essentially an animal painter, his success being in fur rather than in flesh. Down to about 1823 he was content to reproduce the natural expression and characteristics of animals, but after that date, at the sacrifice of genuine artistic qualities, his animal pieces are treated with more or less pictorial effects, with the idea of enforcing the analogy between the character of men and dogs. Dogs and deer are his favorite subjects. His draughtsmanship is facile and elegant, and he was exceedingly rapid in execution. He held a distinguished place in the society of his time, but his abnormal sensibility made him in his later years acutely liable to fits of mental depression due to imagined slights by social superiors. Consult Graves, A., 'Catalogue of the Works of Sir Edwin Landseer' (London); Mawson, J. A., 'Landseer' in 'Makers of British Art' (London 1902); Monkhouse, Cosmo, 'Studies of Sir Edwin Landseer' (London); Stephens, F. G., 'Sir Edwin Landseer' (ib. 1880); Sweetser, M. F., 'Landseer,' in 'Artist Biographies' (Vol. III, Boston 1878).

LANDSHUT, länts'hoot, Germany, capital city of lower Bavaria, on the right bank of the river Isar, and 40 miles by rail northeast of Munich. From 1255-1503 the town was capital of the duchy Bayern-Landshut, and in 1800-26 it was the seat of a university. There is a fine Italian Renaissance palace built in the 16th century, and near the town is the ancient castle of Trausnitz, once a seat of the dukes of lower Bavaria. There are 11 churches, one of which, a Gothic brick edifice, dates from 1392 and has a tower 435 feet high. The Cistercian nunnery of Seligenthal, founded in 1232, is near the city, and has a church built in 1729-38. The city is important for its manufactures and markets. Pop. 30,197.

LANDSKRONA, läns-kroo'na, Sweden, a fortified seaport town on the east side of the Sound, 15 miles northeast of Copenhagen. It has a castle which was completed in 1543 and is now used as a prison, and opposite the town on the island of Hven is the famous subterranean observatory of Uranienborg, built by Tycho Brahe in the 16th century. The modern town ranks 12th in the manufacturing industry of Sweden, leather and sugar products being of chief importance. There are coal mines in the neighborhood and the town possesses an excellent harbor 35 feet in depth. The harbor was the scene 24 July 1677 of a great naval battle in which the Swedes were victorious over the Danes. Pop. 18,437.

LANDSLIDE, or **LANDSLIP**, the slipping or sliding of land, through the failure of supporting strata, from its original position. They are due to a variety of causes. Water, particularly in its changing forms through frost

and thaw, is the chief agent in their production. The wearing away of supports by water, the cracking of underlying materials by summer droughts and the rending of existing crevices by the thawing of water frozen in them are some of the commonest modes by which they are brought about. Sometimes a mass of land resting on an inclined bed slides for a considerable distance before it is arrested by a level surface; thus, in 1772, the Solway Moss, loosened by excessive rains, rolled over 400 acres of cultivated land, reaching in some parts to the roofs of the houses. The fall of the Rossberg in Switzerland and the slip at Charnmouth, near Lyme Regis, are other familiar instances. In 1902 in British Columbia a remarkable landslide occurred destroying an entire mountain village and causing the death of nearly 100 persons.

'Landslide' is a term employed in United States political phraseology to denote the crushing defeat of a political party in an election, and especially of the overwhelming defeat of the party in power, as for example, the Democratic landslide of 1890 and the Republican landslides of 1896, 1920 and 1924.

LANDSMAN, in the United States navy an enlisted man who is not in the seaman branch of the service, but takes the rating of third class seaman. Persons possessing a mechanical trade may be enlisted up to the age of 30 years instead of 25 years as in other branches of the service, and a landsman enlisted for a special position must have the fact recorded on his service card. Originally the term embraced the lowest rating in all branches of the enlisted force of the naval service, but latterly the term has been confined to men enlisted in the artificer or special branches, while in the seaman branch the lowest rating is that of apprentice seaman.

LANDSTAD, länd'stad, **Magnus Brostrup**, Norwegian bishop, folklorist and poet: b. near North Cape on the island of Maasö, 7 Oct. 1802; d. Christiania, 8 Oct. 1880. He was educated for the ministry and became minister at Seljord, where he lived until his retirement in 1876, after which time he resided in Christiania. His literary activities were confined chiefly to versification of folklore and to the composition of hymns. His 'Norske folkeviser' (1851-53) comprised about 130 poetic versions of folklore, set to music by Lindeman. He, together with Andreas Faye, was a pioneer in the classification of Norse folklore. Landstad made a translation of the hymns of Luther (1855) and he also compiled a book of hymns, 'Kirkesalmebög,' which in 1869 was adopted for use in the Norwegian churches and which contained some 60 hymns of his own composition. He also published 'Digte og sange' (1879), and 'Gamle sagn om Hjartdölerne' (1880).

LANDSTURM (land storm, land uprising), in certain European countries a defense force comprised, in practically all cases, only of men who have undergone at least some military training. In Switzerland, for example, the Landstrum is composed of men who have served 12 years in the first line and 8 years in the Landwehr (q.v.). In Sweden the *Landstorm* is composed of men who have served 15 years in the active army.

LANDWEHR, länt' vär («national defense»), in certain European countries a de-

fense force comprised of men who, having completed certain prescribed periods of military training, are permitted to return to civil life and, except for brief periods of training, are recalled for military service only in cases of emergency. In Switzerland, the service is 12 years in the first line, and then eight years in the Landwehr before passing into the Landstrum for eight more years.

LANE, Alfred Church, American geologist: b. Boston, Jan. 29, 1863; d. there, April 15, 1948. He was graduated from Harvard University in 1883 and studied at the University of Heidelberg, 1885-1887. He was instructor in mathematics at Harvard in 1883-1885; petrographer of the Michigan Geological Survey and instructor in the Michigan College of Mines in 1889-1892; assistant, then state, geologist of Michigan in 1892-1909. From 1909 to 1936 he was Pearson professor of geology and mineralogy at Tufts College and from 1924 he was a member of the commission to oversee the Harvard Observatory. He was a delegate to the international Geologic Congress in 1913, 1933 and 1937. Besides many articles, he was editor and part author of various reports on geologic surveys in Canada as well as those of the United States Geologic Survey.

LANE, Edward William, English Orientalist: b. Hereford, Sept. 17, 1801; d. Worthing, Sussex, Aug. 10, 1876. Owing to a breakdown in health he went to Egypt in 1825, lived the life of its people and adopted the dress of the country. In 1836 he published *Manners and Customs of the Modern Egyptians*, a book which bears on every page the stamp of authenticity. His next work was the first accurate version and one of the most famous translations of the *Arabian Nights* (1838-1840). This work was the first translation of consequence into English, which was made directly from the Arabic, all previous translations having been made through the French. It contained valuable illustrations and numerous scholarly and indispensable notes. The translations of Burton and Payne were subsequent to it. The world is indebted to him for many valuable works on Egypt and especially for his *Arabic-English Lexicon* (1863-1874), which cost him 30 years of unremitting labor, the expense of production being generously undertaken by his friend, the 4th duke of Northumberland. The succeeding parts came out from 1877 to 1892 under the editorship of S. Lane-Poole, the whole forming a dictionary indispensable to the students of Arabic. See also *ARABIAN NIGHTS*. Consult his *Life* by S. Lane-Poole (London 1877).

LANE, Franklin Knight, American Cabinet officer: b. Prince Edward Island, Canada, July 15, 1864; d. Rochester, Minn., May 18, 1921. He removed to California in early childhood and was graduated at the University of California in 1886. He engaged in newspaper work and in 1889 was admitted to the bar of California. He practised law in San Francisco, where in 1897-1902 he was city counsel. He was active politically and in 1905-1913 served on the Interstate Commerce Commission, receiving his appointment from President Roosevelt. In 1913 he was appointed secretary of the interior in the Cabinet of President Wilson.

LANE, George Martin, American educator: b. Charlestown, Mass., Dec. 24, 1823; d. Cambridge, Mass., June 30, 1897. He was graduated from Harvard in 1846 and after four years at the universities of Berlin and Göttingen returned to America and became professor of Latin at Harvard in 1851. He held his chair until 1894 when he became professor emeritus. He published *Latin Pronunciation* (1871) in which he contended for the continental pronunciation of the language as against the "English method." His scholarly fame rests on his posthumously published *Latin Grammar for Schools and Colleges* (1898), completed by Morris Morgan. Dr. Lane had worked on this text, described by Professor Gildersleeve as "a monument of literary art and sympathetic interpretation," for nearly 39 years. He also wrote the burlesque *Lay of the Lone Fish-ball*, long popular in Harvard undergraduate circles.

LANE, Harry, American legislator: b. Corvallis, Ore., 1855; d. San Francisco, Calif., May 23, 1917. He was graduated at the Willamette University in 1876 and engaged in the practice of medicine at Portland, Ore. He was superintendent of the Oregon State Insane Asylum in 1887-1891, and was mayor of Portland in 1905-1909. He was elected to the full term in the United States Senate in 1913. He was an advocate of government ownership of telegraphs and telephones. In the debates on the Armed Neutrality Bill, Senator Lane greatly incensed his constituents by taking part in the filibuster of March 5, 1917 against the bill.

LANE, Henry Smith, American politician: b. in Montgomery County, Ky., Feb. 24, 1811; d. June 18, 1881. He studied law, and was admitted to the bar; removed to Indiana in 1832, and while engaged in his profession became prominent in Whig politics. After serving as state senator (1837), he was twice elected to Congress (1838 and 1840), and in the Mexican War was lieutenant colonel of an Indiana regiment. The dissolution of the Whig Party was followed by a preliminary organization which led to the formation of the Republican Party, and in this movement Lane was conspicuous, acting with other leaders who planned the first Republican national convention, held in Philadelphia in 1856, and of which he was permanent chairman. A coalition of Republicans with members of the disappearing American party in 1859 elected him to the United States Senate, but after a contest he was unseated in favor of his Democratic competitor. He was elected governor of Indiana in 1860, and in the same year became United States senator, serving one term.

LANE, James Henry, American politician and soldier: b. Lawrenceburg, Ind., June 22, 1814; d. Leavenworth, Kans., July 11, 1866. He was admitted to the bar in 1840, enlisted as a private in an Indiana regiment in 1846, served in the Mexican War, became colonel and at Buena Vista commanded a brigade. Returning from the war, he was elected lieutenant governor of Indiana; from 1853 to 1855 was a Democratic representative in Congress; in the latter year removed to Kansas, joined the Free-State Party, acted as president of the Topeka and Leavenworth constitutional conventions and became major general of the Free-State forces. In 1856 the Free-State legislature

elected him to the United States Senate, but he was not allowed to sit. He was a prominent actor in turbulent scenes, and was twice indicted, once for treason and again for murder: on the second charge he was tried and acquitted. In 1861 Kansas was admitted to the Union and Lane was elected United States senator, but entered the Federal army and in the same year was appointed brigadier general of volunteers, serving with ability until March 1862, when his commission was canceled. The "Great Southern Expedition" from Kansas (1861-1862) and other military schemes of the period were conceived by Lane, but came to nothing. As commander for recruiting in the Department of Kansas (1862) he came into collision with the State authorities and was charged with attempted usurpation. In 1865 he was again elected to the United States senate, suffered from paralysis in the following year and died by his own hand.

LANE, Jonathan Homer, American physicist: b. Geneseo, N. Y., Aug. 9, 1819; d. Washington, D.C., May 3, 1880. He was graduated at Yale in 1846 and entered the United States Coast Survey in 1847. He was appointed assistant examiner of the United States Patent Office in 1848 and was principal examiner in 1851-1857. In 1869-1880 he was connected with the Bureau of Weights and Measures in Washington. He was a member of the Coast Survey's expedition to Des Moines, Iowa, to observe the total solar eclipse in 1869, and to Catania, Spain, in 1870. He invented a machine for finding the real roots of the higher equations; a visual telegraph; an improved basin for mercurial horizon; a mechanism for holding the Drummond light and reflector on shipboard, etc.

Among his published works are: *On the Law of Electric Induction in Metals* (1846); *Report of the Solar Eclipse of Aug. 7, 1869* (1869); *Theoretical Temperature of the Sun* (1870); *Coefficients of Expansion of the British Standard Yard Bar* (1877).

LANE, Joseph, American soldier and politician: b. Buncombe County, N. C., Dec. 14, 1801; d. Oregon, April 19, 1881. In 1816 he went from Henderson County, Ky., to Warwick County, Ind., where he was for some time clerk in a mercantile establishment, and in 1822-1846 served in both houses of the State legislature. He resigned from the senate in 1846 to enlist as a private in the 2d Indiana Volunteers, was soon commissioned colonel of the regiment, and in the same year was promoted brigadier general. He was wounded at Buena Vista, defeated Santa Anna at Huamantla and was brevetted major general, U.S.A., for this service. After the Mexican War he was appointed governor of Oregon Territory, was Democratic delegate from Oregon to Congress in 1851-1857, defeated the Rogue Indians at Table Rock in 1853 and in 1859-1861 was a United States senator. He was nominated for the vice-presidency in 1860 on the unsuccessful Breckenridge ticket. He then retired from public life and lived at his ranch in Oregon for the rest of his life.

LANE, Sir Ralph, English administrator in America: b. Northamptonshire, England, about 1530; d. in Ireland, 1603. His early life was

spent in maritime adventure; in 1583-1584 he held a command in Ireland, in 1585 took the direction of the colony that Raleigh was establishing in Virginia, sailed in that year in the fleet commanded by Sir Richard Grenville and was left with 107 colonists at Roanoke Island, while the fleet returned to England (August 25). He was thus the first governor of Virginia. The location proved unsuitable, provisions ran low and there was trouble with hostile Indians. On June 19, 1586 the colony sailed for England in the fleet of Sir Francis Drake. In 1589 Lane was a colonel in Drake's expedition against Portugal, and in 1591 helped to quell a rebellion in Ireland. It is regarded as not unlikely that he and his companions first brought tobacco and potatoes to England. Letters by him may be read in Hawks' *History of North Carolina* (1857); and in Hale (editor), *Archaeologia Americana*, vol. 4 (1860).

Consult also his *Account of the Particularities of the Employments of the Englishmen left in Virginia*, printed by H. S. Burrage in *Early English and French Voyages* (New York 1906).

LANE, Ralph Norman Angell. See ANGELL, SIR NORMAN.

LANE, Rose (Wilder), American writer. b. near DeSmet, Dakota Territory (now South Dakota), Dec. 5, 1887.

She is the author of *Henry Ford's Own Story* (1917); *The Making of Herbert Hoover* (1920); *Let the Hurricane Roar* (1933). Mrs. Lane includes among her published works the once best-seller *White Shadows in the South Seas* (1919) which she claimed she ghost-wrote for Frederick O'Brien (1869-1932). He claimed she acted as his secretary. In 1947 Mrs. Lane translated Bastiat's *The Law*. She is a contributor to many leading magazines.

LANE, William Coolidge, American librarian: b. Newton, Mass., July 29, 1859; d. March 18, 1931. He was graduated at Harvard in 1881 and was assistant librarian there from 1887 to 1893, when he became librarian of the Boston Athenaeum, continuing in that position until 1898, after which he was librarian of Harvard University until 1928. From 1886 to 1900 he served as secretary and treasurer of the publishing board of the American Library Association. In 1898-1899 was president of the association and after 1899 chairman of the publishing board. From 1904 to 1909 he was president of the Bibliographical Society of America.

LANE-POOLE, lān'pōōl', Stanley Edward, English archaeologist: b. London, Eng., Dec. 18, 1854; d. there, Dec. 29, 1931. A nephew of Edward William Lane, the Orientalist (q.v.), he was educated at Corpus Christi, Oxford. In 1874-1892 he was employed in the coin department of the British Museum; was sent by the government on archaeological missions to Egypt (1883) and Russia (1886); was employed by the Egyptian government in archaeological research at Cairo (1895-1897); and from 1898 to 1904 was professor of Arabic in Trinity College, Dublin. His published works include: *Catalogue of the Oriental and Indian Coins in the British Museum*, 14 vols. (1875-1892); biographies of Lord Stratford de Redcliffe, 2 vols. (1888). Sir G. F. Bowen, 2 vols. (1889), Sir Harry Parkes, 2 vols. (1894), Sir R. Church (1890); and E. W. Lane (1877):

The People of Turkey, 2 vols. (1878); *Lane's Koran* (1879); *Arabian Society in the Middle Ages* (1883); *Aurazgib* (1892); *History of the Moghul Emperors of Hindustan* (1892); *The Mohammedan Dynasties* (1894); *Egypt in the Middle Ages* (1901); *Mediaeval India* (1902); *The Story of Cairo* (1902); *The Thousand and One Nights*, 3 vols. (1906); *Mediaeval India from Contemporary Sources* (1916); *A Short History of India in the Middle Ages* (1917); *Watson Pasha* (1919).

LANESSAN, län-ě-săn, **Jean Antoine de**, French naturalist and publicist: b. St. André-de-Cubzac, Gironde, July 13, 1843; d. Nov. 9, 1919. He entered the health corps of the French marine service, after studying medicine at Bordeaux, and was engaged as surgeon on the coast of Africa and China until the Franco-Prussian War. He was elected to the National Assembly in 1881 and came into notice as a Republican journalist. Being interested in colonial matters he was appointed governor general of Indochina in 1891-1894; and his writings have done much to promote French colonization. He was Minister of Marine in the Waldeck-Rousseau Cabinet, 1899-1902. His principal works are *De Protoplasme végétal* (1876); *La Matière, la Vie et les Êtres Vivants* (1879); *L'Expansion Coloniale de la France* (1888); *Principes de Colonisation* (1897); *L'Indo-Chine française* (1899); *La Morale des Religions* (1905); *L'État et les Églises en France depuis les origines jusqu'à la séparation* (1906); *La Lutte contre le Crime* (1910); *Nos Forces Navales* (1911); *Nos Forces Militaires* (1913).

LANETT, city, Ala., in Chambers County; on the Chattahoochee River; 21 miles northeast of Opelika; on the Western Railway of Alabama, and Chattahoochee Valley Railroad. It has cotton mills, bleaching and dyeing plants, and manufactures of sheeting, towels, and other cotton goods. It was called Bluffton until its incorporation in 1893, when it was named for the mill owners, Lanier and Barnett. Pop. (1950) 7,434.

LANFRANC, län'fränk, Anglo-Norman ecclesiastic, the first archbishop of Canterbury after the Norman Conquest: b. Pavia, Italy, about 1005; d. Canterbury, Kent, May 24, 1089. After studying law in his native city he left Italy about 1039 and migrated to Normandy where he founded a school of law at Avranches which soon became famous. In 1042 he entered the Benedictine abbey of Bec, near Rouen, of which in 1045 he became prior, having Anselmo, later Pope Alexander II, as one of his pupils and the duke of Normandy (later William I) as his friend. He at first condemned and then condoned William's marriage with his cousin Matilda of Flanders, and when the duke founded the monastery of St. Stephen at Caen was, in 1066, nominated its first abbot. In 1070 he was made archbishop of Canterbury.

As primate he is remembered for his efforts to purify English monasticism; his zeal for the enforcement of clerical celibacy, though he made an exception in favor of parish priests who had married before the decree of 176; and his works of charity.

After the fire of 1067 he rebuilt Canterbury Cathedral in Norman style; founded the hospital of St. John outside Canterbury, and the leper

house of St. Nicholas, at Harbledown. He crowned William II in 1087, and was on the king's side in the rebellion of 1088.

As a theologian, Lanfranc took a prominent part in the controversy with Bérenger (Bérenger de Tours) in 1050, on the question of transubstantiation. He cleared himself before Pope Leo IX of the charge of sympathizing with Bérenger, and set forth his views in the treatise *De corpore et sanguine Domini*, arguing that the elements in the Eucharist are incomprehensibly converted through consecration into the Body and Blood of Our Lord, while their external form and appearance remain.

His works, including commentaries on the Epistles of St. Paul and Sermons, were edited by J. A. Giles (1844).

Consult Charma, A., *Lanfranc* (Paris 1648); Crozals, J. de, *Lives of the Archbishops of Canterbury*, vol. 2 (Paris 1877).

LANFRANCO, län-fräng'kô, **Giovanni**, Italian historical painter: b. Parma, 1580 or 1581; d. Rome, 1647. He was a page in the service of the Marquis of Montalo, who placed him in the studio of Agostino Carracci at Parma. Later he studied in Rome under Annibale Carracci, assisting him in painting the frescoes in the Farnese Palace. His most notable work was done in fresco painting, although there is a considerable number of his oil paintings in the various Italian collections. He was also an engraver, his most famous work in that line being the plates for Raphael's Biblical subjects in the Vatican.

Among the most famous of his frescoes are his *Angels in Glory*, painted for his old patron, the Marquis of Montalo, in the cupola of Maria in Piazza at Piacenza; the completion of the cupola frescoes of San Andrea della Valle; the cupola of the church of Gesù Nuovo at Naples; and he painted other frescoes in various northern Italian cities. He painted *St. Peter Walking upon the Sea* for St. Peter's Church in Rome and likewise executed a Passion series for the chapel of the Crucifix there. His services to ecclesiastical art were recognized by Pope Urban VIII who knighted him.

LANFREY, län-frä', **Pierre**, French historian and publicist: b. Chembéry, Oct. 26, 1828; d. Pau, France, Nov. 15, 1877. He was educated in the Jesuit college of his native town and in Paris and became well known by the publication of works in support of political and religious liberalism. These include *L'Eglise et les philosophes au XVIII^e siècle* (1855); *Essai sur la révolution française* (1858); *Histoire politique des papes* (1860); *Lettres d'Everard* (1860), a social novel in epistolary form; *Le rétablissement de la Pologne*; and *Etudes et portraits politiques* (1863). His most important work is a *History of Napoleon I* (1867-1875), which is strongly hostile to Napoleon. It was incomplete at his death. In 1871 he was elected to the National Assembly by the department of Bouches-du-Rhône, and took his seat with the Republican Left. He was ambassador at Berne (1871-1873), and in 1875 he was elected a life senator.

LANG, lăng, **Andrew**, English author: b. Selkirk, March 31, 1844; d. July 20, 1912. He was educated at St. Andrews and at Balliol Col-

lege, Oxford; was elected Fellow of Merton, Oxford, in 1868. He was probably the most versatile writer of his time, and was recognized as an authority on many subjects, including Greek, French and English literature, anthropology and folklore, Scottish history (especially the Jacobite period), telepathy and physical research. His wide learning appears in his prose rendering of the 'Odyssey' (1879; with Butcher), and the 'Iliad' (1882; with Myers and Leaf), and 'Homer and the Epic' (1893), a defense of the unity of the poems; in his works on comparative mythology and religion, 'Custom and Myth' (1884), 'Myth, Ritual, and Religion' (1887; new ed., 1899); 'The Making of Religion' (1898), and 'Magic and Religion' (1901); and in his studies of Scottish history, such as 'A History of Scotland from the Roman Occupation'; 'The Mystery of Mary Stuart' and 'Prince Charles Edward.' Some of the most interesting of his work is to be found in 'Letters to Dead Authors' (1886); 'Letters on Literature' (1889); 'Angling Sketches' (1891); 'Essays in Little' (1891); 'Adventures Among Books' (1904). He published also volumes of verse, 'Ballades in Blue China' (1880); 'Rhymes à la Mode' (1884); 'Grass of Parnassus' (1888); 'Ballads of Books' (1888); 'Ban et Arrière Ban' (1894). Mention should also be made of 'Cock-Lane and Common Sense' (1894), a discussion of the spiritualistic question; 'John Knox and the Reformation' (1905); 'A Defence of Sir Walter Scott and the Border Minstrelsy' (1910); and the biographies of Lockhart (1896) and Tennyson (1901). See LETTERS TO DEAD AUTHORS.

LANG, Arnold, Swiss zoologist and anatomist: b. Oftringen, 1855. He was educated at the universities of Geneva and Jena, and in 1876 became privatdocent in zoology at Bern. He was assistant at the zoological station at Naples in 1878-85, and was Ritter professor of phylogeny at Jena in 1886-89. In 1889 he became professor of zoology and comparative anatomy at the University of Zürich, where he died 30 Nov. 1914. He wrote 'Die Polycladen (Seeplanarien) des Golfes von Neapel' (1884); 'Ueber den Einfluss der festsitzenden Lebensweise auf die thieze' (1888); and his 'Lehrbuch der vergleichenden Anatomie' was translated into the English 'Text-book of Comparative Anatomy' (Part I, 1891; part II, 1896).

LANG, Benjamin Johnson, American musician: b. Salem, Mass., 28 Dec. 1837; d. 1909. He studied music under his father, an organist and pianoforte teacher, and at 15 began work as teacher and organist. In 1855 he went to Germany for further study, which for three years he pursued under the instruction of Liszt, Albert Jaell and others. Returning to Boston he at once attained prominence as organist, pianist, teacher and conductor; became organist of the Handel and Haydn Society in 1859 and conductor of the same in 1895; conductor of the Apollo Club in 1868, and of the Cecilia Society in 1874. In 1869 he made a second visit to Europe, and gave concerts in Berlin and other cities. As a member of the concert committee of the Harvard Musical Association he did much in the interest of musical culture, and through this and other organizations secured the production of many new works. The intro-

duction of Wagner to the American public was in no small part due to his presentation of that master. He also introduced in America Mendelssohn's 'Walpurgis Night' and Berlioz's 'Damnation of Faust.' While he accomplished much work as a composer, few of his compositions have been published.

LANG, Cosmo Gordon, English archbishop: b. Aberdeenshire, Oct. 31, 1864; d. Richmond, Surrey, Dec. 5, 1945. As an undergraduate he had a brilliant career at Glasgow University, at Balliol College, Oxford; and was a student of the Inner Temple, London, 1883-89. He became a Fellow of All Souls' College, Oxford, in 1888, and attained the degrees of D.D., D.C.L., LL.D., and D.Litt. He was curate at Leeds 1890-93; fellow and dean of Divinity, Magdalen College, Oxford, 1893-96; vicar of Saint Mary's,—the university church,—Oxford, 1894-96; vicar of Portsea, 1896-1901; bishop of Stepney, 1901-08; canon of Saint Paul's, 1901-08; and honorary chaplain to the late Queen Victoria. He was created archbishop of York in 1908 and at the confirmation held in the Church House Jan. 20, 1909 objections were raised on behalf of the Protestant Truth Society on the ground that while bishop of Stepney he had allowed infractions of the law as to church ritual. The objections were dismissed by the commissioners in chambers presided over by the archbishop of Canterbury, on the technical grounds 'that they could not be lawfully received.' He became archbishop of Canterbury in 1928.

LANG, Heinrich, German-Swiss theologian and reform leader: b. Frommern, Württemberg, 14 Nov. 1826; d. Zürich, 13 Jan. 1876. He was educated in theology at the University of Tübingen and took part in the uprising of 1848, for which he was banished. He became pastor of Wartau, Switzerland, and won wide recognition for his advocacy of the Reformed Church. He later became pastor of the church at Meilen. He established a paper called *Die Zeitstimmen aus der reformirten Kirche der Schweiz* which he later combined with Bitzius' *Berner Wochenblätter* under the new name *Reform*. He opposed the old doctrines of the orthodox church, and was untiring in his efforts to promote broader views. He wrote 'Versuch einer christlichen Dogmatik' (1858; 2d ed., 1868); 'Ein gang durch die christliche welt' (1859; 2d ed., 1870), and 'Religiöse Reden' (2 vols., 1873-74; 2d ed., 1896).

LANG, John Marshall, Scottish Presbyterian clergyman and educationist: b. Glasford, Lanarkshire, 14 May 1834; d. Aberdeen, 2 May 1909. After completing his education at Glasgow University he filled successively several important charges, and was minister of the Barony parish in Glasgow from 1873-1900. He was moderator of the Church of Scotland in 1893. He was the author of several devotional and other religious works. His third son, Cosmo Gordon Lang (q.v.), was appointed archbishop of York (1909). In 1900 he was appointed vice-chancellor and principal of Aberdeen University.

LANG, Karl Heinrich Ritter von, German historian: b. Balgheim, near Nördlingen, 7 July 1764; d. Aurbach, 26 March 1835. He was educated at the universities of Altdorf and Göttingen, specializing in history and jurispru-

dence. In 1789 he was private secretary to Baron von Bühler, Wurtemberg's envoy at Vienna; he traveled and studied extensively, and from 1793–1801 he was private secretary and archivist to the Prussian leader Hardenberg. In 1797 he was secretary of the legation at the Congress of Rastadt. He was ennobled in 1808 and in 1810–17 was archivist in Munich, retiring in 1817. His dependability as a historian is lessened by his tendency to satire and his giving rein to personal prejudices. Among his many works are 'Memorien' (Brunswick 1842; 2d ed., 1881); 'Beiträge zur Kenntnis der natürlichen und politischen Verfassung des oettingischen Vaterlandes' (1786); 'Neuere Geschichte des Fürstentums Bayreuth' (1798–1811); 'Bayerns Gauen' (1830).

LANGBAINE, lāng'bān, **Gerard** (LANGBAINE THE YOUNGER), English dramatic biographer and critic: b. Oxford, 15 July 1656; d. there, 23 June 1692. He was the son of Gerard Langbaine, provost of Queen's College, Oxford, and was educated at University College, Oxford. For years he trifled with literary pursuits and in November 1687 a work appeared under Langbaine's name entitled 'Momus Triumphans, or the Plagiaries of the English Stage Exposed in a Catalogue of Comedies, Tragedies, etc.' A month later the work reappeared as 'A New Catalogue of English Plays,' the advertisement disclaiming responsibility for the title of the first edition and for an uncorrected preface. Langbaine attributed the unauthorized edition with its derisive title to the malice of Dryden. At this time Langbaine had collected 980 English dramatic works. He later wrote 'An Account of the English Dramatic Poets, etc.' (Oxford 1691), which is his best-known and most valuable compilation. He was elected yeoman bedel of arts at Oxford in 1690 and esquire bedel of law and architypographus in 1691.

LANGBEIN, lāng'bēin, **August Friedrich Ernst**, German humorist: b. Radeburg near Dresden, 6 Sept. 1757; d. Berlin, 2 Jan. 1835. He was educated for the law at Leipzig and engaged in practice in Dresden until 1800 when he went to Berlin to enter upon a literary career. Both his verse and prose are of a rollicking humorous cast and were widely popular. He wrote 'Schwänke' (1792; 2d ed., 1888); 'Thomas Kellerwurm' (1806); 'Sämmtliche Schriften' (1835–37); 'Humoristische Gedichte,' edited by Tittmann (1872); 'Humoristische Erzählungen' (1891). Many of his poems enjoyed a lasting popularity as songs.

LANGDALE, Marmaduke, **BARON**, English soldier: b. near Beverley, about 1598; d. Holme, 5 Aug. 1661. He came into public notice in 1639 when he opposed the ship-money levy on Yorkshire, but when the Civil War began he espoused the cause of King Charles I, and in 1643 he raised a regiment to fight for him. He afterward became a commander of cavalry, defeated the invading Scottish army at Corbridge, Northumberland, 19 Feb. 1644, and later fought at Marston Moor. He was victorious at Melton Mowbray 25 Feb. 1645; and succeeded in raising the siege of Pontefract on 1 March 1645, a piece of work regarded as perhaps the most brilliant of his career. He was defeated at Naseby, at Rowton Heath and at Sherburn; and the battle of Carlisle completely shattered

the remnant of his 1,500 horsemen so that he was compelled to flee to the Isle of Man, whence he escaped to France in May 1646. In the second Civil War he returned to Scotland with a commission from Charles II, and on 28 April 1648 he surprised Berwick and quickly raised a body of Royalists. He was defeated by Cromwell's army at Preston, 17 Aug. 1648, and was taken prisoner 25 August. He was one of seven persons debarred from pardon by Parliament, but he succeeded in escaping from prison. He entered the Venetian service and was prominent in the defense of Candia against the Turks in 1652. After the Restoration Charles II created him a peer. His estates had been confiscated by Parliament, his losses in the service of the king amounting to £160,000, and he excused himself from the coronation ceremonies in 1661 on the ground of poverty.

LANGDELL, Christopher Columbus, American lawyer: b. New Boston, Hillsborough County, N. H., 22 May 1826; d. Cambridge, Mass., 6 July 1906. He studied at Harvard, was graduated from its law school in 1853, in 1853–70 practised in New York, in 1870 became professor of jurisprudence in the Harvard Law School, and in 1871 dean of the law school faculty. In 1895 he retired. He was an originator of the so-called "case" system of legal study, and was otherwise prominently identified with the progress of professional education in this country. His publications include 'Selection of Cases on the Law of Contracts' (1870; enlarged ed., 1877); 'Cases on Sales' (1872); 'Summary of Equity Pleading' (1877; 2d ed., 1883), and 'Cases in Equity Pleading' (1878); 'Brief Survey of Equity Jurisprudence' (1904).

LANGDON, John, American statesman: b. Portsmouth, N. H., 25 June 1739; d. there, 18 Sept. 1819. At the outbreak of the Revolutionary War he embarked in the patriotic cause, and in 1775 he was a delegate to the Continental Congress, but resigned office in June 1776, on becoming navy agent. In 1777, while speaker of the New Hampshire assembly, he pledged a large portion of his property for the purpose of equipping the brigade with which Stark defeated the Hessians at Bennington. He took part in the battle of Stillwater and commanded a company at Saratoga and in Rhode Island. Subsequently he was a member and speaker of the State legislature, a member of the Continental Congress, a delegate to the convention which framed the Constitution of the United States, and president of New Hampshire. He was one of the first United States senators from New Hampshire, which office he held until 1801, serving for a time as president of the Senate. In politics he acted with Jefferson, who upon assuming office in 1801 offered him the post of Secretary of the Navy, which he declined. From 1805 to 1812, with the exception of about two years, he was governor of New Hampshire; and in 1812 he was offered by the Republican congressional caucus the nomination for the office of Vice-President of the United States, which, on the score of age and infirmities, he declined. The remainder of his life was passed in retirement.

LANGDON, Samuel, Congregational clergyman and educator: b. Boston, Mass., 1723;

d. Hampton Falls, N. H., 1797. He was graduated from Harvard in 1740 and was pastor at Portsmouth, N. H., 1747-74. In 1774 he became president of Harvard, resigning in 1780. In the New Hampshire Convention he ardently advocated the ratification of the Federal Constitution. He received the degree of D.D. from Aberdeen in 1762. Langdon was the author of several works on religion and philosophy.

LANGE, lǎng'ě, **Ernst Philipp Karl** (PHILIPP GALEN), German novelist: b. Potsdam, 21 Dec. 1813; d. there, 20 Feb. 1899. He took his degree in medicine at Berlin, became a surgeon in the Prussian army in 1840, saw service in the Schleswig-Holstein campaign of 1849 and afterward settled at Bielefeld, where he practised medicine and began his literary career. He retired with the rank of surgeon-general in 1878. He wrote 'Der Inselkönig' (1852; 3d ed., 1858); 'Der Irre von Saint James' (1854; 9th ed., 1891); 'Walter Lund' (1855); 'Die Tochter des Diplomaten' (1865); 'Die Moselnixe' (1877); 'Der Meier von Monjardin' (1891), etc. His 'Gesammelte Schriften' was published in 36 volumes (1857-66).

LANGE, Friedrich Albert, German sociologist and economist: b. Wald near Solingen, 28 Sept. 1828; d. Marburg, 23 Nov. 1875. He was educated at Dinsberg, Zurich and Bonn, and became privatdocent in philosophy at Bonn in 1855. In 1858 he became schoolmaster at Duisberg, but resigned upon the government forbidding schoolmasters to partake in political activities, and entered journalism in the cause of political and social reform. He was a bitter opponent of Bismarck's ministry. In 1866 he removed to Winterthur near Zurich, where he was connected with the *Winterthurer Landbote*. He became privatdocent at Zurich in 1869 and professor of inductive philosophy in 1870. His strong sympathy with the French in the Franco-Prussian War influenced his resignation from Zurich but he afterward abandoned politics. In 1872 he became professor at Marburg. He wrote 'John Stuart Mills Ausichten über die sociale Frage' (1866); 'Geschichte des Materialismus' (1867; 8th ed., 1908); 'Logische Studien' (1877; 2d ed., 1894), etc.

LANGE, Henry, German cartographer: b. Stettin, 13 April 1821; d. Berlin, 20 Aug. 1893. He was for three years engaged upon Johnson's Physical Atlas in Edinburgh and in 1855-60 he was head of the geographical department of Brockhaus in Leipzig. He was appointed inspector in the Berlin Statistical Bureau in 1868. Among his publications are 'Atlas vom Nordamerika' (1854); 'Brockhaus Reise-atlas' (1858-73); 'Südbrasilian, mit Rücksicht auf die deutsche Kolonization' (1885), etc.

LANGE, Johann Peter, German theologian: b. Sonneborn near Elberfeld, 10 April 1802; d. Bonn, 9 July 1884. He studied at Bonn, held several pastorates and in 1854 became professor of theology at Bonn. He was one of the editors of the 'Theologische-homiletisches Bibelwerk,' which was translated, edited and enlarged under the direction of Dr. Philip Schaff as 'A Commentary on the Holy Scriptures, Critical, Doctrinal and Homiletical' (25 vols., New York 1865-80). He wrote 'Christliche Dogmatik' (3 vols., 1849-52;

new ed., 1870); 'Grundriss der theologischen Encyclopädie' (1887); 'Grundriss der christlichen Ethik' (1878); 'Grundriss der Bibelkunde' (1881), etc.

LANGE, lǎng'ě, **Julius Henrik**, Danish art critic: b. Vordingborg, 19 June 1838; d. Copenhagen, 20 Aug. 1896. After leaving the University of Copenhagen he traveled in Italy, and thereafter devoted himself to study of the history of art, becoming in 1888 professor in that subject at Copenhagen University. Among his works are 'On Art Values' (1876); 'Danish and Foreign Art' (1879); 'Gods and Men in Homer' (1881); 'Art and Politics' (1885); 'Bastien Lepage and Other Painters' (1889); 'Thorwaldsen's Representation of the Human Figure' (1893). In his 'Billedkunstens Fremstilling at Menneskeskikkelser' (3 vols., 1892-99) he elaborates his discovery of the "Law of Frontality." Consult Brandes, G., 'Julius H. Lange' (Copenhagen 1898).

LANGE, Thomas, Danish novelist: b. Copenhagen, 1829; d. Lyngby, 1887. He studied theology but abandoned it for a literary career. His work ranks nearly equal to that of his contemporary countryman, Goldschmidt. His first successful novel was 'Eventyrets Land' (1865). Later writings include 'Aaen og havet' (1870); 'Romantiske skildringer' (1872); 'De lyse Nætter' (1875); 'Nyt Liv' (1879), etc.

LANGE, Thor Næve, Danish author and translator: b. Copenhagen, 1851; d. 1915. He studied at the University of Copenhagen and took his Ph.D. there in 1894. He became a professor at Moscow in 1877 and in 1887 he was Danish consul there. His work includes some excellent poetry and prose work besides translations of verse from the French, Italian, Greek, Russian and English. His 'Skildringer fra den russiske Literatur' (1886) ranks as a notable production. He wrote 'En Maaned i Orienten' (1887); 'Skizzer og Phantasier' (1890); 'Gennem farvet Glas' (1894); 'I danske Farver' (1907), etc.

LANGELIER, lǎnz'h'lyǎ', **SIR FRANCOIS Charles Stanislas**, Canadian jurist and statesman: b. Saint Rosalie, Quebec, 24 Dec. 1838; d. 8 Feb. 1915. He was educated at Saint Hyacinthe College, Laval University and the Law Faculty of Paris, and was professor of Roman law and afterward of civil law and economics at Laval University. He served in the Canadian House of Commons in 1884-98; was Minister of Crown Lands, Quebec, 1878-79; mayor of Quebec in 1882-90; and puisne justice of the Superior Court in 1898-1907. He was acting chief justice of the Superior Court of the province of Quebec division in 1906-11; and from 1911 he was lieutenant-governor of the province of Quebec. He was knighted in 1907. He published 'De La Preuve en Matière Civile et Commerciale'; 'Commentaire du Code Civil de la Province Quebec.'

LANGEN, Joseph, German theologian: b. Cologne, 3 June 1837; d. Bonn, 13 July 1901. He studied at the University of Bonn and was ordained a priest in 1859. He became assistant professor in 1864 and in 1867 professor of the exegesis of the New Testament at Bonn, a

position he held for the remainder of his life. In 1870 he supported Döllinger in his controversy with the Vatican and was excommunicated. He left the Old Catholic Church in 1878 because of the permission to marry which was given priests, but he was never reunited with the Roman Catholic Church. His writings, which made him well known, include 'Introduction to the New Testament' (1868; 2d ed., 1873); 'An Examination of the Vatican Dogma in the Light of Patristic Exegesis of the New Testament'; 'History of the Church of Rome to the Pontificate of Innocent III' (4 vols., 1881-93), etc. He also contributed to the *International theologische Zeitschrift*.

LANGENBECK, lǎng'ĕn-bĕk, **Bernhard Rudolph Konrad** von, German surgeon: b. Pardingbüttel, 8 Nov. 1810; d. Wiesbaden, 29 Sept. 1887. He took his degree at Göttingen in 1835. He traveled in France and England, returned to Göttingen as privatdocent and in 1842 became professor of surgery at Kiel. He succeeded Dieffenbach as director of the Clinical Institute for Surgery and Ophthalmology at Berlin, serving there in 1848-82, when he retired. He was a daring and skilful surgeon and made a reputation in facial surgery, as well as in resection, an operation on the bone which frequently obviates amputation of a limb; and in the treatment of gunshot wounds he was an authority. He was general field surgeon of the army in the war with Denmark in 1848, served in 1864-1866 and in the Franco-Prussian War of 1870-71. He was ennobled for his services in the Danish War. He published 'Chirurgische Beobachtungen aus dem Kriege' (1874).

LANGENBECK, Karl, American ceramic chemist: b. Cincinnati, Ohio, 7 Oct. 1861. He studied under Victor Meyer in Zürich and under Carl Liebermann in Berlin. He was superintendent of the Rockwood Pottery in Cincinnati in 1885-90, and is the originator of the Rockwood faience and aventurin pottery glazes. In 1888-90 he was professor of chemistry at Miami Medical College; chief ceramist, U. S. Tariff Commission for pottery and glass manufactures, 1922-24; consulting ceramic engineer, U. S. Bureau of Standards, from 1924. He wrote 'Chemistry of Pottery' (1895).

LANGENBECK, Konrad Johann Martin, German surgeon: b. Horneburg, 5 Dec. 1776; d. 24 Jan. 1851. He studied at Jena, Vienna and Würzburg and took his degree at Göttingen in 1802. He was appointed professor at Göttingen in 1804. He was eminently successful both as a surgeon and as a teacher. He founded and edited the *Bibliothek für Chirurgie und Ophthalmologie* (1806-28). He was the father of MAXIMILIAN ADOLPH LANGENBECK (1818-77), also famous as a surgeon and uncle of BERNHARD RUDOLPH KONRAD VON LANGENBECK (q.v.).

LANGENDIJK, lǎng'ĕn-dĭk, **Pieter**, Dutch poet and dramatist: b. Haarlem, 1683; d. 1756. He was by trade a designer of textile patterns, but turned to literature, in which he achieved considerable success. His work includes a number of dramas, chiefly comedies, some of which are still produced, and he was the author of numerous poems. His works include 'Don Quichot' (1696); 'De Zwetser' (1712); 'Het

wederzyds huwelyksbedrog' (1714); 'Kreislouwen' (1715); 'Quincapox of de windhaudelaars' (1720); 'Xantippe of Het boose wyf des filosoofs Socrates beteugeld' (1756), etc. His poems were published in his collected works, 'Gedichten' (1760). Consult Van Hampen, 'Histoire des lettres Neerlandaises' (1821-26); Meijer, 'Pieter Langendijk' (1891).

LANGENSALZA, lǎng'ĕn-zǎl'tsǎ, Prussia, city in the province of Saxony, on the Salza, 19 miles northwest of Erfurt. It became a town in 1211, was subsequently part of the electorate of Saxony, and in 1815 came into Prussian possession. Near it are the remains of the Benedictine monastery of Hohenburg, where Henry IV was victorious over the Saxons in 1075. It was the field of three other famous battles; the defeat of the imperial army by the Prussians and English, 15 Feb. 1761; the victory of the Prussians over the Bavarians 17 April 1813, and the defeat of the Prussians by the Hanoverians 27 June 1866, the results of this battle being reversed by the arrival of Prussian reinforcements 29 June. The modern town is chiefly engaged in the textile industries. There are sulphur springs in the vicinity. Pop. 12,663.

LANGENSCHIEDT, lǎng'ĕn-schĭt, **Gustav**, German philologist and publisher: b. Berlin, 21 Oct. 1832; d. there, 11 Nov. 1895. He was an extensive traveler and the originator with Charles Toussaint of the Toussaint-Langenscheidt method of self-instruction in languages. The first textbook of the series, 'Französische Unterrichtsbriefe zum Selbststudium' (1856) reached its 62d edition in 1902. He was assisted by Karl von Dalen and Henry Lloyd in the preparation of 'Englisch Unterrichtsbriefe.' He published also the 'Sachs-Villatte Französisch-deutsches Wörterbuch' (1868-94); the Muret-Sanders 'Encyclopädie Wörterbuch der Englisch und deutsche Sprache' (1891-1901), etc. The system was founded on the Hamilton-Jacotot method and has been widely adopted for use in different languages.

LANGEVIN, lǎnzh-vǎn, **Sir Hector Louis**, Canadian statesman: b. Quebec, 26 Aug. 1826; d. 1906. He was called to the bar in 1850. He entered Parliament during the Union period and on Confederation was appointed Secretary of State; was subsequently Minister of Public Works (1869-73); Postmaster-General (1878); and again Minister of Public Works (1879-91). He retired from public life in 1891.

LANGEVIN, Jean François Pierre La Force, zhōn frāñ-swǎ pē-ār lǎ fōrs, French-Canadian Roman Catholic bishop: b. Quebec, 22 Sept. 1821; d. 26 Jan. 1892. He was educated at the Quebec Seminary, was ordained priest in 1844 and consecrated bishop of Rimouski in 1867. In 1870 he founded the College of Rimouski. Among his publications were 'Histoire du Canada en Tableaux' (1860); 'Cours de Pédagogie' (1865).

LANGEVIN, Louis Philip Adelard, Canadian Roman Catholic prelate: b. Saint Isidore, La Prairie County, Quebec province, 23 Aug. 1855; d. Montreal, 15 June 1915. He was educated in theology at the Sulpician College, Grand Seminary, and Saint Mary's College,

Montreal; was ordained in 1882; was appointed professor of theology in the University of Ottawa 1885; and in 1893 became rector of Saint Mary's Church, Winnipeg. He was consecrated archbishop of Saint Boniface, 19 March 1895. He played a conspicuous part in the separate schools controversy in Manitoba.

LANGHAM, Simon de, English archbishop and cardinal: b. Langham, about 1310; d. Avignon, 22 July 1376. He became a monk, then prior and later abbot in the abbey of Saint Peter at Westminster. He was appointed treasurer of England in 1360 and in 1361 became bishop of Ely. He was chancellor of England in 1363, and in 1366 was elected archbishop of Canterbury. He expelled the secular clergy, headed by John de Wiclif, from their college at Canterbury Hall, Oxford, and as chancellor of England took part in the antipapal measures of 1365-66. He was nevertheless made a cardinal by Urban V in 1368, but his acceptance cost him the favor of Edward III and he was compelled to resign his archbishopric. He retired to Avignon, soon held other offices of the Church and in 1374 was again offered the archbishopric of Canterbury, but declined it. He left his estate to Westminster Abbey, where his tomb is the oldest monument to an ecclesiastic.

LANGHORNE, John, English poet and translator of Plutarch: b. Kirkby Stephen, Westmoreland, March 1735; d. Blagdon, 1 April 1779. He entered Clare Hall, Cambridge, in 1760, and having taken orders became a curate at Dagenham in Essex in 1761, and rector of Blagdon, Somerset, in 1766. In 1777 he was installed a prebendary of Wells Cathedral. He wrote verses and stories once popular, but he is remembered now only by the translation of Plutarch's Lives which he made with his brother William (1721-72). This work, originally published in six volumes in 1770, has passed through many editions.

LANGLADE, län'gläd', Charles Michel de, French-Canadian soldier and pioneer, known as "the founder and father of Wisconsin:" b. Mackinaw, Mich., May 1729; d. Green Bay, Wis., January 1800. His mother was the daughter of an Ottawa chief, and as head of the Ottawas he carried out the ambushade which resulted in the defeat of General Brad-dock in 1755. He was in the service of the French at Fort Duquesne; and in 1757 he joined Montcalm with a band of Ottawas, rendering services at Fort George for which he was made second in command at the military post at Mackinaw. He was with Montcalm at the siege of Quebec, was in the battle of the Plains of Abraham, and in 1760 fought under Chevalier de Levis. At the outbreak of the American Revolution he joined the British at the head of a large body of Indians. When the Indians deserted General Burgoyne after the severe reprimand which followed the murder of Jane McCrea, Langlade was forced to accompany them; but while Burgoyne bitterly blamed him the British government did not confirm the charges. He was appointed Indian agent in 1780 and later became Indian superintendent and commander-in-chief of the Canadian militia. He held these offices until his death, and received a life annuity of \$800 from the British government. He was a man

of unquestioned integrity, and inspired sentiments of warm regard of which traditions still linger in Wisconsin.

LANGLANDE, län'länd, LANGE-LANDE, or LONGLAND, William, English poet: b. Cleobury Mortimer, about 1332; d. about 1400. Little is known of him except from tradition, according to which he was educated at Oxford, and became a monk of Malvern. The familiarity of the author with the Scriptures and the Church fathers indicates that he was an ecclesiastic; several local allusions in the poem, and the fact that its scene is the "Malverne Hilles," prove that it was composed on the borders of Wales; and internal evidence fixes its date at about 1362. It narrates the dreams of Piers Ploughman, who, weary of the world, falls asleep beside a stream in a vale among the Malvern hills; and while satirizing in vigorous allegorical descriptions the corruptions in church and state, and the vices incident to the various professions of life, and painting the obstacles which resist the amelioration of mankind, presents the simple plowman as the embodiment of virtue and truth, and the representative of the Saviour. Its ancient popularity appears from the large number of MS. copies still extant, most of them belonging to the latter part of the 14th century. It was a favorite of religious and political reformers, and several imitations of it appeared, the most important of which was 'Piers Ploughman's Crede,' written about 1393 by some Wycliffite, assailing the clergy, and especially the monks. In 1550 the 'Vision of Piers Ploughman' was printed by the reformers, and so favorably received that three editions were sold within a year. This poem is a remarkable example of a system of verse, derived from the Anglo-Saxons, and marked by a regular alliteration instead of rhyme. There are two classes of manuscripts, which give the text with considerable variations. The best edition both of the 'Vision' and the 'Crede' is that of Wright (1856; new ed., 1897); and of the 'Vision,' that of Skeat (1886). Consult Jusserand, 'Piers Plowman; a Contribution to the History of English Mysticism' (1893); Stubbs, C. W., 'The Christ of English Poetry' (New York 1906).

LANGLÈS, Louis Mathieu, French Orientalist: b. Perrenes, 23 Aug. 1763; d. 28 Jan. 1824. He was educated at Paris, specializing in Oriental languages. He translated the 'Instituts politiques et litteraires de Tamerlan' from the Persian in 1787; and edited the 'Alphabet tartare-mandchou' of Father Amvot in 1789-90. He was instrumental in the establishment of the School of Oriental Languages in Paris in 1795; and was its first administrator, as well as professor of Persian. He was author of many studies of Oriental literature, and the founder of the Paris Geographical Society.

LANGLEY, John Newport, English physiologist: b. Newbury, 1852; d. Cambridge, 5 Nov. 1925. Educated at Saint John's College, Cambridge, he received a fellowship at Trinity College, Cambridge, where he was lecturer in 1884-1903, also serving as university lecturer; and later became professor of physiology at Cambridge. He was a member and officer of many English, American and Continental scientific societies;

was royal medalist of the Royal Society in 1892, and was awarded the Baly Medal of the Royal College of Physicians in 1903. He contributed extensively to scientific journals, and edited the *Journal of Physiology*.

LANGLEY, Samuel Pierpont, American astronomer, physicist and pioneer designer of airplanes: b. Roxbury, Mass., Aug. 22, 1834; d. Aiken, S. C., Feb. 27, 1906. He was graduated from a high school, studied architecture and civil engineering and, after a two years' trip abroad, became an assistant in the Harvard Observatory in 1865. Later he was assistant professor of mathematics in the United States Naval Academy, and in 1867 was appointed director of Allegheny Observatory. In 1887 he became secretary of the Smithsonian Institution. He organized in 1881 an expedition to Mount Whitney, Calif., where he was successful in re-establishing the color constant, and in extending the invisible solar spectrum. He also devised the bolometer, or thermic balance, a contrivance for detecting minute differences of radiant heat and measuring accurately to less than one ten-thousandth of a degree Fahrenheit. He established the Astrophysical Observatory and the National Zoological Park at Washington and in 1887 was president of the American Association for the Advancement of Science. His name became generally known through his experiments in connection with the problem of mechanical flight. In 1896 a motor driven airplane designed by him accomplished the first sustained flight. Further experiments were not so successful, but his design of apparatus has been shown to be correct; in fact, in 1914, Glenn Curtiss installed a more powerful engine in Langley's machine of 1903 and made a successful flight with it at Hammondsport, N. Y. Congress voted Langley \$5,000 to carry out his ideas. Criticism and lack of support led him to abandon his experiments, which, if persevered in, would have been successful eventually, as aeronautical engineers now recognize the correctness of Langley's reasoning and the value of his contributions in this field of science. Among his writings are *The New Astronomy*; *Experiments in Aero-Dynamics*, and *Internal Work of the Wind*.

LANGLEY, Walter, English painter: b. Birmingham, 1852; d. Cornwall, 1922. He attended the National School, Birmingham, qualified as a lithographer, meanwhile studying in the local school of art. He there gained the national scholarship and studied at South Kensington for two years; settled in Newlyn, Cornwall, 1882. Among his watercolor paintings are *Among the Missing*; *Departure of the Fleet*; *Disaster*; *After the Storm*. His oil paintings include *Never Morning Wore to Evening but Some Heart Did Break*; *Motherless*; *Breadwinners*, and *Between the Tides*.

LANGMUIR, Iäng'mür, Irving, American scientist: b. Brooklyn, N. Y., Jan. 31, 1881. He studied at Columbia School of Mines (Met. E., 1903) and at the University of Göttingen, Germany (Ph.D. in chemistry, 1906). He taught chemistry at Stevens Institute of Technology, Hoboken, N. J. (1906-1909), resigning to become research chemist and physicist at the General Electric Company Research Laboratory

at Schenectady, N. Y., where he became assistant director in 1909, and associate director from 1932 until his retirement in 1950.

His researches have resulted in the development of the modern nitrogen- and argon-filled incandescent light bulb (1912; see also *ELECTRIC LIGHTING*); acoustic devices for submarine detection (1917-1918); the atomic hydrogen welding torch (1924-1927); the high-vacuum transmitting tube; and the high-vacuum mercury pump (see also *VACUUM PUMPS*). His contributions, with those of Gilbert N. Lewis, to atomic theory and the understanding of atomic structure, threw light upon the meaning of isotopes. Langmuir's most important recent experimentation (1947-), in collaboration with Dr. Vincent J. Schaefer, has led to the artificial stimulation of rainfall by spraying dry ice and silver iodide into moisture-bearing clouds.

Author of *Phenomena, Atoms, and Molecules* (New York 1950). Langmuir received the Nobel Prize in chemistry in 1932 for his theoretical work relating to the structure of matter and surface chemistry.

LANGREO, läng-grä'ô, commune, Spain, in the province of Oviedo on the river Nalon, 18 miles from the coast and 14 miles southeast of Oviedo on a branch railway from Oviedo to Labiana. Its chief industries are the mining of coal, and iron ore, and the manufacture of iron products. The surrounding country produces fruit, wheat, and hemp. Pop. (1941 est.) 43,797.

LANGRES, län'gr' (ancient ANDEMATUNUM, later LINGONES), commune, France, in the Department of Haute-Marne, 21 miles southeast of Chaumont on the eastern railway to Belfort. It is situated on Langres Plateau which is famous in military history as a commanding strategic point. Under Roman rule it was practically autonomous until the revolt of Sabinus reduced it in rank to a colony in 71 A.D. The cathedral of St. Mammes was built in the 12th century, and the church of St. Martin in the 13th, 15th and 18th centuries. There is a Gallo-Roman gate, a museum of Gallo-Roman antiquities, a picture gallery, and library. The town has a higher ecclesiastical seminary, and communal colleges for both sexes. The industries of the town include a famous line of cutlery and textile manufactures, together with a trade in grain and oil. Pop. (1931) 7,558.

LANGSIDE, läng'sid, village, Scotland, forming a suburb two miles south of Glasgow. It is famous as the scene of the battle in which the regent James Stuart, Earl of Murray (q.v.) on May 13, 1568 defeated the forces of Mary, Queen of Scots and forced her flight to England where she was made prisoner and held until her execution. The battle lasted only three-quarters of an hour.

LANGSON, läng'sôn', town, French Indochina, of the Province of Langson in Tonkin, 85 miles northeast of Hanoi, on the railway between there and Lungchow in the Chinese province of Kwangsi. The town has a citadel and was the scene of two battles in which the French were first defeated by and in turn defeated the Chinese in 1885, since when it has belonged to the French.

LANGSTON, John Mercer, American educator: b. in Louisa County, Va., 14 Dec. 1829; d. Washington, D. C., 15 Nov. 1897. He was born a slave, but when six years old was emancipated, and in 1849 was graduated at Oberlin College, where he was also (1853) a graduate in theology. Admitted to the bar in Ohio (1854), he practised law in that State for 13 years, and in 1869 was appointed professor of law at Howard University, Washington, D. C.; became dean of the law department, and in 1873 vice-president of the university. In 1871 he was appointed a member of the board of health of the District of Columbia, and was afterward elected secretary of the District. From 1877 to 1885 he was United States Minister and consul-general in Haiti, and when he returned to this country he was made president of the Virginia Normal and Collegiate Institute at Petersburg. He was elected to Congress in 1888. He published 'Freedom and Citizenship,' a collection of addresses (1883).

LANGTON, Stephen, English cardinal: b. about 1150; d. Slindon, Sussex, 9 July 1228. He was educated at Paris, and while on a visit to Rome in 1206 Innocent III created him a cardinal and nominated him to the see of Canterbury, consecrating him archbishop next year. King John refused to allow Langton to take possession of his see, and it was not till England had been placed under an interdict, John excommunicated and threatened with deposition, that the king yielded. Langton was acknowledged in 1213, and in August joined the insurgent barons, and acted with them in compelling John to sign Magna Charta. He crowned Henry III, and in 1223 demanded of him the full execution of the charter. He was the author of some theological treatises, and the division of the Bible into chapters has usually been attributed to him. Consult Hook, 'Archbishops of Canterbury' (1862).

LANGTRY, Lily, English actress: b. island of Jersey, 1852; d. 21 Feb. 1929; daughter of the Rev. W. C. Le Breton, dean of Jersey, and as the 'Jersey Lily' (a name given by Millais to the portrait of her which he had painted) was famous for her singular beauty and social graces. She was married to Edward Langtry in 1874. In 1881 she made her first appearance on the stage at the Haymarket Theatre in 'She Stoops to Conquer.' She paid several professional visits to the United States, and in 1903 she starred in 'The Crossways,' a play written by herself in collaboration with J. Hartley Manners. In 1899 she was married to Sir Hugo de Bathe, Bart.

LANGUAGE. See ETYMOLOGY; LANGUAGE, SCIENCE OF; SPEECH; WRITING.

LANGUAGE, Science of. Language in its broadest sense is any means of expressing thought. The cries of the lower animals are language in so far as they give expression to their state of mind, there is a language of flowers and so on. The present article deals with only one form of language, i.e., human speech. The Science of Language in this narrower sense (also called *Linguistics*) comprises three branches: (1) General Linguistics; (2) Comparative Philology; (3) Special Grammar. The object of the *General Linguistic* is to ascer-

tain the fundamental laws and characteristics of the language processes by the examination and comparison of all the languages available for this purpose. This branch interprets the phenomena observed in the light of the known laws of psychology, physiology and physics. It lays the foundations for all the branches of language study. *Comparative Philology* has a narrower field, being limited to the comparison of languages of kindred origin. Its purpose is to determine the genetic relationships between such languages. Examples are Indo-European Comparative Philology, Comparative Philology of the Bantu languages, of the Semitic languages, etc. *Special Grammar* is of two types, historical and systematic. The latter offers a systematic classification and description of the forms and usages of any given language or dialect at some definite period of its life, e.g., the grammar of Modern English, of Chaucer's English, of Hellenistic Greek. Historical grammar aims to explain the development of a given language from generation to generation.

A. GENERAL LINGUISTICS.

Description of the Language Processes.—

It is customary to define language as articulate sounds expressive of ideas. While such a definition may satisfy the popular curiosity, it is extremely inadequate. As a matter of fact, language is a complex series or group of nervous, muscular and physical processes. It is a well-known fact that the nervous system is made up of a great many groups of nerve cells. Each group performs some special function. For example, one part of the brain receives the impressions from the eye, another from the ear and so on. In particular from one area on each side of the brain run fibres which reach either directly or indirectly (by relays) all the muscles of the body. When we wish to give utterance to an idea, we set up (in some way not fully understood) a nervous activity in that portion of this "motor area" which controls the muscles that must be moved in order to produce the required sounds. Physiologists assume that this activity consists of chemical activity in the nerve cells. Reaching the muscle this nervous activity sets up what we will designate as (1) the first stage of the speech process, i.e., a chemical activity in the muscle cells and the consequent movement (shortening and thickening) of the muscle. The moving muscle drags with it the bones and other tissues attached to it. Practically all the muscles of the body from the hips upward to the level of the ears are employed in speech. Those of the abdomen and chest control the stream of breath; those of the larynx control the production of musical tones; those of the head and neck control the movements of the jaws, tongue, lips, etc., necessary to the modification of musical tones and the production of consonantal noises.

These movements initiate (2) the second stage, i.e., they set the air particles of the breath into rapid oscillation. These air vibrations, the physical stage of the speech process, are propagated in accordance with the laws of physics in all directions and thus impinge upon the ear drums of the listener. Propagated thence to the inner ear they there act upon appropriate sense organs and through them stimulate the tips of the auditory nerves. The nervous process thus

set up is propagated along the nerve, like fire along a fuse, till it reaches the brain, where it initiates (3) the third stage, i.e., sensations of sound, which awaken in the mind of the listener ideas and emotions similar to but never identical with the ideas and emotions which started this train of processes in the mind of the speaker.

This series of psycho-physical processes may be figuratively called the main trunk line of speech, but the following accessory processes are equally essential. The muscular movements not only produce air vibrations, but also stimulate by pressure of friction sensory nerves located in or upon the muscle fibres, in the synovial membranes of the joints and in the surfaces of the tongue, palate, gums, lips, etc. This stimulation results in (4) kinesthetic sensations (of strain, deep pressure and touch) which report to us the location, nature and extent of the movements executed. Aided by the auditory sensations they provide a means by which we control our movements; through them we learned to repeat desired movements in infancy; through them we become aware of errors of movement (mispronunciations) in later years; without them tradition in language would be impossible.

Not less vital are (5) the many associational processes. The parts of the brain active during thinking are connected (directly or through sub-centres) with the motor areas, and it is a law of mental life that all thought tends to pass over at once into action. There is likewise association between the sounds of the words and their meaning, between the sounds and the kinesthetic sensations, between the kinesthetic sensations and the ideas, between the visual sensations (that is, the appearance of the written or printed words) and the meaning, etc. The effect of these associations is to bind the whole into a co-ordinated and harmonious system, in which each process takes place with a degree of accuracy and order of sequence adequate to the accomplishment of the purposes for which speech is employed.

All the above processes both in man and animals have been developing since primæval times by a natural process of evolution in accordance with the laws of physical and mental growth. On the other hand alphabetic signs or letters are arbitrarily designed or selected by individuals to represent certain sounds. They yield (6) visual sensations. Although originating as symbols of sounds, the letters when grouped into words quickly become associated with the meanings and are primarily symbolic of them.

Thus we see that speech is a combination of three different kinds of symbols: (a) the primary symbols, muscular movements, (b) the secondary symbols, speech sounds, and (c) the tertiary symbols, written or printed words. The average man thinks usually of the last two forms, but he who would understand the nature of language and fathom the laws of its development should rather direct his attention chiefly to the muscular movements and regard language study as applied Psychology of Movement.

The above described processes beginning with thought in the mind of the speaker and ending with the awakening of thought in the mind of the listener do not, however, complete the cycle of speech. It must not be forgotten that speech is a social activity. Man cannot

live without the co-operation of his fellow-men. The chief purpose of speech is to secure this co-operation and thus achieve some form of self-realization, of accomplishing our desires. The communicative process is completed only when the speaker gets a response by word, look, gesture or even silence (for silence is sometimes eloquent), which will enable him to judge the attitude of the listener and hence the degree of his own success or failure.

The problems of General Linguistics fall into two classes: first, those which have to do with the processes of expression and, second, the problems of understanding. Under the first fall the following: the relation of thought to language, the relation of physical to spiritual matters, the origin of language, the degree of accuracy and completeness with which language expresses thought, the extent to which the forms of thought are controlled by language and vice-versa, the effect of environment on speech, the problems of anatomy and physiology of nerve and muscle and of the localization of brain functions, the problems of muscular control. The problems of interpretation include those of understanding and those of sensation. Here fall the questions as to the degree of accuracy with which sensations correspond to stimuli, or, conversely put, how far the state of mind determines the character of the sensation (mishearings, misreadings and misunderstandings), how sensations awaken thought. All these problems may be grouped under two heads: Phonetics and Semantics.

Phonetics.—Phonetics is the general science of speech sounds; *phonology* is the study of the system of sounds of any given language, as, e.g., English phonology. The organs of speech in the narrower sense are the mouth and nose cavities and especially the tongue and larynx; also the trachea and lungs with their controlling muscles. In a broader sense they include those muscles of the abdomen which aid in the control of breathing. The lungs force through the trachea a stream of air, the rate of flow and compression of which are varied from moment to moment to meet the needs of speech. The larynx, which rests on the top ring of the wind pipe, is a small box having a cartilaginous framework overlaid with muscles, connective tissue and mucous membrane. Its most essential parts are the so-called "vocal cords." These are not, strictly speaking, cords at all, but are overhanging, ledge-like projections, one arising from each side of the inner wall of the larynx. The core of each is formed by a small muscle, the front ends are immovably attached to the inner front angle of the thyroid cartilage (Adam's apple) in contact with each other. Each muscle is attached at its posterior end to one of the arytenoid cartilages, which can be moved by means of appropriate muscles upward, downward, forward or sidewise. Thus by the approximation of the arytenoid cartilage: the "cords" can be brought into contact along their entire length, completely closing the glottis, as the opening between them is called; or the rear ends of the cords may be separated, yielding a V-shaped glottis. When brought into contact, or nearly so, and tensed by proper muscular action, they are made to vibrate by the current of air forced through the trachea. The vibrations can be easily felt if the finger be placed upon the Adam's apple during speech

The sound produced is musical tone, consisting physically of a series of like vibrations, and technically called *voice*. The rate per second of the vibration determines the key or musical note on which a sound is pronounced or sung. The shorter the cords and the higher the tension the higher the rate and the higher the note. The loudness is determined by the amplitude of the vibrations of the cords. The air waves produced by the cords are very feeble; but they are reinforced by the resonating effect of the mouth and nose cavity. It is estimated that the voice as heard is some 300 times as loud as it would be if not thus reinforced. The cords, like a violin string, vibrate not only as a whole but also in segments, the segmental vibrations yielding overtones. For example, if the cord as a whole vibrates 100 times per second, the half cord will vibrate 200 times, the third 300 times, the fourth 400 times, the eighth 800 times, the twelfth 1,200 times and so on. The commingling of these overtones of varying loudness is what gives the main characteristic distinction to the voices of different persons.

The *vowels* are "voice" with little or no audible commingling of other sounds. After much study it now seems to be established, that the difference between the various vowels is caused by the presence of certain characteristic tones. Some of these have been recently calculated as follows:

oo in <i>moon</i>	ca.	225 vibrations per second
o in <i>moor, roam</i>	"	460 " " "
aw in <i>maw</i>	"	732 " " "
a in <i>ma</i>	"	1050 " " "

The following vowels have two characteristics:

ee in <i>meet</i>	ca.	310	and ca.	3100
a in <i>mate</i>	"	490	"	2460
e in <i>met</i>	"	690	"	1950
a in <i>mat</i>	"	800	"	1840

A in *ma* has also been found with two characteristics, 950 and 1,240. According to the above definition we must regard the *liquids* and *nasals* *l*, *m*, *n* and *r* as vowels (even though they lack the clear, open quality of *a*, *e*, *i*, *o*, *u*), particularly in such words as *apple*, *serum*, *oven* (often pronounced *ov'm*) and *over*, in which the *e* and *u* are usually silent, the *l*, *m*, *n* and *r* being the loudest sounds in their syllables.

In addition to musical tones the speech organs produce sounds which consist either of irregular vibrations or of regular vibrations, that do not produce on the ear the effect of musical tones. Such sounds are called noises. There are two classes of these noises: (1) Explosive noises, (2) frictional noises.

The former are made by the complete stoppage of the air (effected by a closure at some point in the throat, mouth or larynx), and the subsequent compression of the air behind the closure, followed by the sudden opening of the closure by muscular action and the air pressure. The resulting *consonantal* sound is called a "stop" or "explosive." The closure yielding *p* is made by bringing the lips into contact, *t* by pressing the tongue against the teeth (French and German dental *t*) or the gums (alveolar *t*, as commonly made in England and America, though dental and alveolo-dental *t* is often found among us) or against the top of the mouth (cerebral or prepalatal *t*, as found in Sanscrit), *k* by pressing the rear part of the tongue against the back

part of the hard palate (palatal *k*, as in *kick*) or against the velum (velar *k*, as in *koal* or *coal*) or against the back part of the throat below the velum (guttural *k*, as in Arabic). In all of these sounds except Arabic *k* and the two now to be mentioned, the velum is also drawn upward, closing the nose passage. A *k* may also be made by pressing the epiglottis against the back of the throat and a *glottal stop* is produced by an explosion at the vocal cords (Greek "rough breathing"). A *velar-nasal* stop is made by closing the lips and velum and snapping open the latter. *b*, *d*, *g* are the same explosive noises accompanied by voice. *Trilled r* is produced by a succession of such stops made by the rapid vibration of the tongue or the uvula against the adjacent parts of the mouth. *Frictional* noises (*spirant* consonants or *fricatives*) are produced when the air passage is reduced by near closure to a very small channel and the air forced swiftly through it. Thus are produced voiceless *s* in *see*, *sh* in *shall* and *th* in *think*. To these correspond voiced *z* in *zest*, *z* in *azure* and *th* in *these*. All these are *hisses*. If the channel is larger and the breath driven more gently, the noise is a murmur as in *l* and American northern *r* (voiced or voiceless). Glottal spirants are English *h* (sometimes voiced) and the "whisper."

If immediately following an explosion the passage remains narrow for an instant the explosion is followed by a hiss. These sounds are called *affricates*: *ch* in *change*, *j* in *jump*. *Y* as in *yet* is a swiftly pronounced "long" *e*; *w* in *we* is an evanescent *oo* as in *boot*.

In the production of most of the above sounds the velum may remain open, i.e., drawn forward and downward, adding the resonance cavity of the nose to that of the mouth. This greatly increases the quality (by reinforcing the higher overtones) and volume of the sound. Hence singers are especially trained to use nose resonance to the greatest possible extent. If the velum is closed, fully half the resonance effect is lost. By using more breath and overstraining the muscles of the larynx one can partly make up the loudness, but the quality is irretrievably lost. A full, clear resonance can be secured only when the mouth opening is fairly wide. If it is completely stopped (as in pronouncing *n*), or made very small, we get a muffled *nasal twang* characteristic of certain French vowels and of "Yankee" pronunciation.

The lips may be more or less puckered or "rounded" in the pronunciation of all the vowels and most of the consonants. This gives a peculiar resonance effect. English *o* in *note* and *u* in *tune* are rounded. German *ü* and French *u* are rounded long *e* (as in *meet* or *mere*).

Accent is of two kinds. *Stress* accent is a variation in the energy of utterance (amplitude of vibration) of successive (a) words, (b) syllables, (c) sounds or (d) parts of the same sound; (a) constitutes sentence accent, (b) is word accent, (c) and (d) syllable accent. *Pitch* accent is a variation of musical tone (rate of vibration) similarly affecting sounds, syllables and words. In most, if not all, languages both types occur. In English stress predominates.

Comparatively few speech movements and sounds are here described. Those actually produced are innumerable; they run into the millions or even billions. Each nation has a group of some three score "main" sounds and countless minor variations. Each individual has his own way of speaking; we easily recognize his voice; but even he varies his pronunciation from day to day, nay, even from minute to minute. Here, as everywhere else in animal and even vegetable life, nothing is fixed. As the old Greek philosopher said, *panta rhei*, "everything is in a flux." Movement and change are life; rigidity is death.

Sound Changes.—As already stated, Phonetics is applied psychology of movement. The muscles used in speech, though highly trained, act as other muscles act. You cannot close the eyes and draw with a sharp pointed pencil 10 lines exactly one inch long. A ball player cannot throw the ball twice through exactly the same point over the plate. If he does it is an accident. The best marksman rarely hits the exact centre of the bull's eye. So in speech no one can repeat at will exactly the same movement, much less a group of movements necessary to the production of a given sound. There will always be variations in range, direction, duration and co-ordination. The variations are slight, as are those of an expert marksman, and the consequent variations in sound are either unnoticeable to the "naked" ear or, if noticeable, are really unnoticed, since our attention is wholly absorbed in what a person is saying and we give only the slightest heed to the details of sound. It is only occasionally that variations occur large enough to thrust themselves on our attention. Then we call them mispronunciations.

But the variations, though small and unnoticed, will in a given community under favorable conditions accumulate in a given direction. Thus there will be a slow but steady shift in a given direction, which in time will result in entirely different movements, that is, in entirely different sounds. For example, the word *stone* in Early English was written *stane* and pronounced with the sound of *a* as in *father*; in Chaucer's time the same vowel had the sound of *ou* in *bought* and the spelling was reformed to *stone*. Since then it has shifted to the present pronunciation. The following types of changes occur: (1) Cessation of movement. Sounds become silent, as most *e*'s, at the end of English words, *gh* in *high*, *b* in *lamb*, etc. This change may be facilitated by a stress accent on the preceding syllable. (2) Increase or decrease in the duration of the movement. Example: The Indo-European extra long diphthongs *ai*, *ei*, *oi*, etc., became the ordinary length diphthongs *ai*, *ei*, *oi*, etc., in Latin. (3) Variation in extent of movement. This variation affects, for example, the shape of the mouth cavity and the tension of the vocal cords, giving rise to variation in vowel quality, as in *stone*, cited above, and characterizing such shifts as that of Indo-European palatal *k* to fricatives in Sanscrit and Slavic. (4) Anticipation or delay of individual movements composing a group. Such are the voicing of previously voiceless consonants and vice-versa; assimilation both progressive and regressive; and *Umlaut*. (5) Change in the order of movements. This is

a fertile source of mispronunciation, but appears to have caused few historical changes.

The causes of these changes are partly physiological and partly psychological, being due to changing chemical conditions in the muscle or to changes in state of mind. Widespread regularity observed in these changes has given rise to the belief that, like other natural phenomena, they follow regular laws; but the conditions determining the changes are extremely complex and difficult to control. Such laws are Grimm's law of consonant change, with its modifications by Verner and Burgmann. See also PHONETICS.

Semantics, or Semasiology; the Science of Meaning.—The simplest word has six "personalities," so to speak; it is an intricate Dr. Jekyll and Mr. Hyde. It has three material forms: the moving muscle, the vibrating air and the written or printed signs. To each of these corresponds a purely mental side: the word picture, as seen "in the mind's eye"; the memory image of the sound and the kinaesthetic or "motor" image; that is, the feeling of touch, strain, etc., in the muscles. These are mental states, mental "contents." The picture of a word is the same sort of thing as the picture of a house. Both are made up of ideas of color, shape and direction. We saw above that these are linked to one another by associations, that they are also linked up with the motor areas. We now add that they are linked up with all other mental contents that constitute thought, so that when these last are in consciousness the word images also appear. It is a law of psychology that any mental content may thus be linked up with, that is, suggest, recall or represent any other mental content. But all ideas are mental contents and all word images are ideas or mental contents. Meaning is simply one mental content which some other mental content by association calls up, that is, represents. When we hear or see words, their mental images simply through association call into consciousness other mental contents, which are their meaning. Meaning is representation.

Two kinds of mental content enter into all thought: sensation and feeling. The first is the mental state resulting immediately from the stimulus of one of the sense organs. Examples are: red, bitterness, cold, hardness, fragrance, pain, etc. We locate them (except headache) outside of the brain. Combinations of these sensations constitute ideas. No idea ever enters consciousness without awakening a personal response, such as that of pleasure, displeasure, relaxation, strain (as in anxiety), stimulation or inhibition. This reaction is called feeling. Combinations of these feelings constitute emotions and passions. The will is one form of them. On the basis of ideas and feelings abstract ideas develop.

In ideas, as in muscular movement, there is continual variation. The details of form, direction, color, intensity, are continually changing. We never obtain a wholly new idea; it is always a variation or modification of the old. The variations are greatest in childhood; in manhood the ideas become more stable; in old age they approach a condition of rigidity as we draw near to death. Changes in ideas consist in the loss of former elements from them and the addition of new ones.

Of the elements of an idea some are relatively permanent, recurring time after time with the recurring idea, as, for example, the general shape of a horse. Others a temporary, as the color, actions or temper of the horse. A detail may be present once and then disappear forever. Permanency is often, as in the case just mentioned, based on qualities of objects in nature, but often it is not. Again, not all the elements are equally prominent in our consciousness. Some come out clearly, others fade into the background. Now it is the color of the bird on which we fix attention, now his song, now he is for us merely a symbol of the coming of spring.

In the meanings of words, as in muscular movement, the small variations accumulate with time so that a word may eventually have totally changed its meaning. We are not usually aware of these changes any more than we are aware of the sound changes, because our attention is wholly occupied with the present idea and we seldom recall its older form for comparison. But when we read old books, these changes force themselves upon the attention. Comparing old and new meanings, we find that concrete words have become abstract and vice-versa, *comprehend* meant at once time "seize," and we now use *catch, take, get, tumble* in the sense of "understand," that words have suffered restriction or expansion of meaning (a *minister* was originally any servant, now it is a servant of God, or of the state; *gain* originally had the narrower meaning "harvest"), that they have shifted to a higher or to a lower moral value (German *selig* "blessed" is English *silly*; Latin *mens* means "mind," but *mentiri* means "to lie," i.e., falsify). There have also been distinguished (a) changes of non-dominating elements, (b) of dominating elements, (c) of permanent elements, (d) of transitory elements, (e) from ideational content to emotional content and the reverse, (f) in degree of emotional value, (g) ideas corresponding to one sense organ to those corresponding to another, as when we say "a sharp knife, a sharp tone, a sharp taste, a sharp man" (the last usage being abstract). See SEMANTICS.

Grammatical Categories.—An especially important branch of semantics is that dealing with the parts of speech and other grammatical categories, the case relationships, mood, tense, voice, number, degree, etc., all of which are the product of the analyzing and classifying processes of the mind. The normal mind quickly develops the power of distinguishing various qualities, such as sex, and their degrees, and of observing relationships of time (present, past, future, before, after, simultaneous), place (in, on, about), cause, effect and so on. Other categories reflect the attitude of mind: purpose, will, desire, probability, doubt, necessity. They run into the thousands. Finnish has 18 cases. One language has over 60. Some of these occur very frequently and are very important dominating elements of thought. Their frequent occurrence, importance and the degree of readiness and closeness with which they fuse with other concepts, are such that the sounds or words representing them act both phonetically and semasiologically in peculiar ways. They find expression in the following forms: (1) Juxtaposition, e.g., *apple tree, tree toad*. Juxtaposition is but the first

stage of composition, as seen in *therefore, Johnson*; (2) Relative rapidity of utterance of different sounds or groups of sound, including pauses. (3) Stress of voice, signifying, for example, relative importance; (4) Pitch of voice, indicating interrogation, irony, etc.; (5) order, e.g., *apple-pie, pie-apple*; (6) adverbs; (7) prepositions; (8) conjunctions (including (9) pronouns); (10) auxiliary verbs; (11) inflectional forms: suffixes, prefixes, infixes and various modifications of sound, such as umlaut (mutation) and vowel gradation; (12) often no special formal sign is needed, as when the relationship in which objects stand to each other in nature is so impressed upon us that the mere mention of the objects suggests it. Dickens' character Jingle depended much upon this fact. (13) Lastly the general circumstances and conditions of a conversation and the known purpose of the speaker are valuable keys to the meaning.

The associative processes and sound changes combine to give origin to inflectional endings. Some are known to have originated in composition; in other cases sounds developing in accordance with purely phonetic laws independent of meaning have later taken on the significance of inflectional elements. Adverbs and conjunctions are commonly developed out of inflectional forms of other parts of speech, especially nouns, adjectives and pronouns, though less commonly from verbs. The preposition is only an adverb "in disguise."

Classification of Languages.—There are a number of principles on which languages may be classified. That most widely known was elaborated by von Humboldt. He distinguished between the outer and inner sides of languages, between the movements and the conceptual forms. He conceived that the latter, being inherent in the human mind, are the same for all nations, but that different peoples expressed them with different degrees of perfection. He considered the most primitive type to be the "isolating" languages, in which the words are all simple roots with nothing resembling inflectional forms. Higher were the "agglutinating" languages which show a partial fusion of roots into loosely united word elements, and highest the inflected type. This principle cannot be applied practically to the classification of the languages of the earth, because few, if any, of them belong exclusively to any one class. As a matter of fact, both the analytic tendency (toward isolation) and the synthetic (toward inflection) are present in all languages at all times. Now one may prevail, now the other, as in Old English there were elaborate inflections, while at present English belongs rather to the isolating type, as does the Chinese. In fact languages show such complexity and variety that it may be doubted whether any principle of classification can be consistently applied to them. The best that can at present be done is to put into groups by themselves certain languages which have conspicuous resemblances in vocabulary and external form. Such clearly defined groups are: The Malayo-Polynesian Group (agglutinative), including Malayan, Melanesian and Polynesian; Bantu or Kafir; Dravidian Group in southern India and Ceylon; Finno-Ugric, comprising Finnic (six languages), Permian, Volga Finnic and Ugrian, the chief language of which

is Magyar; Chinese, an isolating language, as are also the unrelated Anamese, Siamese, Burmese and Tibetan; Turko-Tataric.

There are about 30 groups of languages recognized on the American continent but their relationships are not all perfectly understood. The Semitic branch includes, among others, the Assyrian (with Babylonian), Hebrew, the language of the Old Testament, Phœnician and Arabic (classical and modern). To the Hamitic branch belong Ancient Egyptian, Coptic, Berber and several languages in Abyssinia and adjacent territory. The Indo-European family will be discussed in detail in the next section of this article.

B. COMPARATIVE PHILOLOGY.

In this article only Indo-European Comparative Philology is treated. The Indo-European family of languages contains the following branches:

1. Aryan or Indo-Iranian group. This comprises (a) the Indian languages, that is, literary Sanscrit (both Vedic and Classical) with a very rich religious and secular literature; Pracrit, the ancient vernaculars, from which many of the spoken languages of modern India are descended; Pali, the language in which the Buddhistic writings are largely preserved. Modern Gipsy also belongs here. (b) The Persian group, that is, Avestan (the language of the Zend Avesta); Old Persian (the language of the cuneiform inscriptions); Middle Persian or Pehlevi (till about 700 A.D.); Modern Persian, Kurdic, Ossetian and Baluchi; Parsi, the language of the Fire Worshipers.

2. Armenian, old and modern.

3. Greek, with its many dialects and marvelous literature. The chief ancient dialects were Attic-Ionic, Doric and Æolic; the main historical periods are Homeric, Classical Attic, Hellenistic, Byzantine, Modern.

4. The Illyrian group, represented by the Albanian.

5. Italic group, comprising Latin and the Oscan-Umbrian dialects. From spoken Latin disseminated throughout the Roman Empire the Romance languages have developed.

6. Celtic, including the language of the ancient Gauls, and modern Welsh, Cornish, Scotch and Irish, the last with an important literature.

7. Germanic or Teutonic, represented by (a) old Gothic; (b) Scandinavian (Danish, Swedish, Norwegian and Icelandic); (c) West Germanic with its various older dialects from which modern German, Dutch, Flemish and English are sprung.

8. Balto-Slavic includes (a) Lithuanian, Lettish and Old Prussian (now extinct); (b) East-Southern Slavic (Russian, Bulgarian, Serbian, Croatian, Slovenian); Western Slavic (Czechish, Bohemian, Wendish, Polish and Polabian).

It is known that all of these had their origin in dialects of one common language, the home of which on linguistic and archæological evidence is generally conjectured to have been between the Baltic and the Caspian seas. Thence they spread by migrations to their later habitats. By the separation thus brought about and in some cases at least by race mixture the differences between the dialects increased until they became distinct languages, which in their

turn spread over larger areas, and broke up again into dialects. These later dialects developed into still other languages, and so on indefinitely. This process is still going on, though more slowly, because of the closer communications existing between nations. It is possible, perhaps even likely, that the Celtic and Italic groups arose from one common dialect, just as did Baltic and Slavic or Indian and Iranian; in which case we should have to speak of an Italo-Celtic group instead of two separate groups. Each of these Indo-European groups developed separately, no one of them springing from another. Thus English is just as closely related by origin to Hindi or Bengali or Russian or Czechish as it is to Irish or French, although the extensive borrowing of French words in modern times gives the English vocabulary a closer resemblance to the French.

The reconstruction of the primitive dialects is accomplished (only, of course, to a very slight degree) by discovering through comparison of the related languages what were the original sounds, words, forms and meanings. It must be understood, however, that it is impossible to reconstruct combinations of words. For, while we may reconstruct two different words, we cannot be certain that both were used in the given form in a given dialect at the same time. Furthermore all reconstructions are only approximate. But philologists are not distressed on this account, since they are interested not in discovering the starting points of modern forms (which, after all, were only end points as compared with the innumerable forms that for ages preceded them), but in discovering the nature of the changes that took place and the laws by which they were governed.

We know that the early dialects possessed roughly the same group of sounds as is described in the earlier part of this article. It doubtless possessed at one time a strong stress accent which appears to have brought about such variations in vowel sound as are seen in Greek *tithēmi*, *thētos*, *tethmos*, which show the vowel *e* as long, short and vanished. It also seems that at least in the eastern area this accent was combined with a marked musical or pitch accent. Compound words were freely formed. There was extensive use made of suffixes and prefixes in derivation. There was very elaborate inflection: three genders (not referring, however, mainly to sex); three numbers (singular, plural and dual); eight case forms were differentiated in the singular, six in the plural and four in the dual; the verb had forms distinguishing actions as beginning, ending, progressing, completed or momentary, but gave less accurate expression to the time; it had also desideratives, intensives, causatives and iteratives; the verb had also three persons, three numbers, five moods, two voices, active and middle, but apparently no special passive form; there were also various verbal nouns and verbal adjectives. The noun and verb show some striking resemblances in form, which suggest that at a much earlier period they, like the English noun and verb (cf. the word *stone* used both as a noun and a verb) were only slightly differentiated or not at all.

For the *Origin of Language*, see *SPEECH*, GENESIS OF

C. HISTORY OF LANGUAGE STUDY IN EUROPE.

The scientific study of language in Europe began with the Greeks, who, however, were not interested in language for its own sake so much as for the light its study threw on other fields of knowledge. Plato investigated etymology because he hoped thereby to learn something of the nature of material things. Aristotle, who studied language as an accessory to logic and dialectics, investigated especially the relations between thought and the forms of words. His main contribution was the definition of some of the parts of speech and some of the categories of the noun and the verb. He is justly regarded as the founder of systematic grammar. The Stoic philosophers extended and supplemented his definitions till they covered practically the whole field of grammar. Unfortunately the domination of their thought by logical theory led them into some errors. The work of the Greeks was summed up in two grammars (that of Dionysius Thrax in the 1st century B.C. dealing with sounds and inflections, and that of Apollonius Dyscolus in the 2d century A.D. dealing with syntax), which have served as models for the thousands of systematic grammars since composed in Europe. The Roman grammarians added practically nothing to the achievements of the Greeks, contenting themselves with translating their words into Latin and adapting them to the Latin language. (See DONATUS; PRIGIAN). The Scholastic philosophers (from the 12th century on) did positive harm by completely subjecting grammar to logical theory. Grammar became practically "applied logic" (see NONIUS). The last representative of this school was the German Gottfried Hermann (1772-1848), who, however, endeavored to combine the older ideas with the Kantian categories. Some slight influence was exerted in Europe by Arabic grammarians by way of Spain. In addition the Hebraist Reuchlin (1455-1522) introduced the idea of "roots," that has played so important a part during the last 150 years.

A new era in language study begins with the development of the "historical-philosophical" school in the earlier part of the last century. The change was determined chiefly by the growth of Romanticism and the "discovery" of Sanscrit. Language study was more completely liberated from the domination of logic and speech came to be thought of rather as an historical development than as a static structure. The wonderful enthusiasm for language study then prevalent was stimulated by such works as Schlegel's 'Sprache und Weisheit der Inder' and von Humboldt's 'Kawi Sprache.' Franz Bopp (1791-1867), starting out to investigate the nature of verbal endings, published a series of works which laid the foundations of Comparative Philology. Sir Wm. Jones had recognized Greek, Latin, Sanscrit and possibly Gothic and Celtic as related languages. Bopp added Zend (in 1816), Lithuanian and Old Bulgarian (1833-35) and Albanian (1855). He laid the foundations for the later work of Pott (in etymology), Fick (lexicography), Schleicher (critical phonology) and Schrader (prehistoric antiquities of the Aryan people). The books of Max Müller, professor in England, and William D. Whitney,

American, have popularized the whole subject, which is summarized in Brugmann and Delbrück's 'Principles of Comparative Philology of the Indo-European Languages' (7 vols., in German). Grimm's 'German Grammar' (Vol. I, 1819) is the first great embodiment of the historical point of view. He directed his attention mainly to the changes continually occurring in the living spoken dialects of Germany (instead of studying older literary remains) and on the basis of a previously unparalleled collection of data, he deduced the famous statement of Indo-European consonant changes known as Grimm's law. This and the similar work of other later scholars combined with the invention of instruments for the exact measurement of muscular movements and air waves has led to the development of the important field of *Experimental Phonetics*. Most important of all, however, is the fact that in language study the laws of psychology have replaced the laws of logic as the basis of the methods employed in all investigations. As a result of this, language study has taken its place beside jurisprudence, history, economics, etc., as one of the Humanistic or Psychological Sciences.

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LANGUAGES OF THE WORLD. Languages can be classified in two ways: genetically or typologically.

Genetic Classification.—According to this grouping, languages of an entirely different type or structure, such as English, Sanskrit, Russian, are grouped together because they have a common origin—in fact, English and Sanskrit and Russian all ascend to a common ancestor, Indo-European (q.v.), a language spoken probably in Europe about 4,000 years ago. Although these three languages have deviated enormously from that ancient ancestor and today their respective speakers cannot understand each other, still the fact that they have evolved from one and the same language allows us to classify them genetically together and to call them all Indo-European, as belonging to the Indo-European language family.

The genetic classification of languages, in its pure form, originated essentially with the German linguist, August Schleicher (1821–1868), who presented it first in his *Compendium der vergleichenden Grammatik der indo-germanischen Sprachen* (1861–1862). Schleicher compared every language to a stem, which, growing, branches out into two or more different languages, each in turn producing new branches, and so on *ad infinitum*. This theory is called in German the *Stammbaumtheorie*, or stem-theory, or also (in English) family-tree-theory. Thus, for example, adapting it with some modernization to this case, the original Indo-European language once “branched out” into Southern and Northern Indo-European; the former further divided into Celtic, Italic, Hellenic, Indic, and Iranian; the Northern into Germanic, Baltic, and Slavic; Germanic subdivided into Western, Northern (Scandinavian), Eastern Germanic; Western Germanic (taking only one example) further divided into High German and Low German, while from Low German came Dutch, Flemish, Frisian, English; and English itself has developed different dialects, such as Scottish-English, American-English, Australian-English.

Typological Classification.—This arrangement began with the brothers Friedrich and A. Wilhelm Schlegel in their respective books *Von der Sprache und Weisheit der Indier* (1808) and *Observations sur la langue et la littérature provençales* (1818). They classified languages according to their structure (that is, their way of expressing grammatical relations) into three classes: isolating, agglutinative, inflectional. Despite many recent criticisms and with some reservations, this classification still can be defended.

Isolating Languages.—These languages express themselves by means of concrete and inalterable words or roots, without any purely grammatical tools, such as articles, prepositions, conjunctions, endings, or interior mutations. There is therefore no distinction between parts of speech, such as nouns, verbs, adverbs, since such a distinction is of course essentially functional or grammatical. Roughly, if English were formed only of sentences like “I drink good wine,” “three-month baby,” “We love fish,” “Drive slow,” “Cut that tree,” “We will leave America,” it would be an isolating language, or very near to this type, for all the words composing these sentences have an existence of their own and even can be used in isolation: *drink! three! baby! fish! slow! cut! America!* Their syntactical relation is indicated exclusively by their respective position, not by any special particle (such as *to*,

with, if) nor by endings (such as *he loves, trees, he left*) nor by interior change (such as *give, gave; sing, sang, sung, song; mouse, mice*). Moreover, most, if not all, of these words can be used both as nouns and verbs (*will, fish, cut, baby, wine, leave, tree, love, drink*) and as adjectives, adverbs, and verbs (*slow*, at least in colloquial American).

Agglutinative Languages.—These languages, on the other hand, express the grammatical relations which mold the structure of the sentence from the clay of words through recognizable but separable elements, either prefixed (prefixes) or suffixed (suffixes) or infixes (infixes), which have no existence at all in isolation (such as English *the, to, with, if, when*). Thus sentences like English “I go hunting with my brother,” “If you love the sea,” “Why do you not go to Florida?” can be taken as examples of an agglutinative language, for words like *with, my, the, if, to* never occur isolatedly and indeed have no meaning at all outside a sentence.

Inflectional Languages.—These languages inflect, that is, modify internally a word, thereby indicating a different function (*see, saw; man, men; mouse, mice*). In a wider sense, languages possessing endings (such as English *I love, he loves; boy, boys; ox, oxen*) are also called inflectional, although the procedure is quite different and indeed very near to the agglutinative (*to me* and *ox-en* is almost the same type). The distinction can be drawn in a case like Latin nominative *lupus*, genitive *lupi*, dative *lupo*, for here we cannot detach the stem from the ending, as can be done in the case of *ox, oxen*. That is, in this case the degree of fusion between the concrete element (the stem) and the grammatical characterization (ending) is the sole feature which enables us to distinguish an inflectional from an agglutinative language.

Typological Problems.—It becomes obvious here, as in many other cases, that the difference among the three types of languages (isolating, agglutinative, inflectional) is relative and that many intermediary degrees exist. Very few languages can be defined as purely isolating or agglutinative or inflectional; we can say only that the one or the other type predominates. This can be seen clearly in English, a language which belongs to a certain extent and from certain aspects to all three types, although the agglutinative may be said, on the whole, to be prevalent.

According to August F. Pott's fine definition in *Jahrbücher der freien deutschen Akademie* (Frankfurt am Main, 1849), in the isolating languages the matter or concrete semantic content (word, root) and the form or grammatical function are completely independent from each other; in the agglutinative languages matter and form are loosely connected, by the simply exterior method of juxtaposition, and can be separated mentally; in the inflectional languages (*men, saw, mice*) matter and form are inseparably fused and the one cannot be expressed without the other. In a language like Latin, every noun must be singular or plural, nominative or genitive, every verb must be in a certain person, tense, mood, and so forth.

If we classify all languages of the world according to this system, we find that, with the above reservations, isolating languages are very rare and are found only in a section of Asia, which includes China, Indochina, and Tibet. All these languages are related also genetically to

each other and possess tones. Purely inflectional languages are also exceptional and likewise are found only in a continuous section of Eurasia, from India to Iceland; they all belong to two families: the Indo-European and the Semitic. All the other languages of the world, including all the native languages of Africa, Oceania, and America, plus Basque and several Ugro-Finnic languages in Europe, are, at least in a broad sense, agglutinative. An enumeration of all the agglutinative languages of the world would be much too long. It will suffice to mention here all those in the Uralic and Altaic, Dravidian, and Bantu families; Ainu, Japanese, Korean, Ryukyu; all the Caucasian languages (among them Georgian, Circassian, Lezghian); Basque, Sudanese, Hottentot, Bushman, Negrito, Andamanese, Papuan, Australian, Tasmanian, Eskimo; and all the native American languages. Some of them, however, such as Japanese and Finnish, are very near to the inflectional type and even could be called inflectional in a broad sense of the word. On the other hand, Eve or Ewe (on the Guinea coast) is predominantly isolating.

It should be stressed that these two types of classification are independent of each other and that of three languages belonging to the same family, and even closely related, one can very well be isolating, one agglutinative, one inflectional. Thus, in the Indo-European group Russian and Lithuanian are essentially inflectional, French is agglutinative, while English and modern Persian show strong isolating characteristics.

It was held widely during the 19th century that originally all languages were isolating (that is, had only concrete monosyllabic words or "roots"); then, by subordinating some roots to others and lowering them to the status of grammatical tools, they reached the agglutinative stage; finally, by fusing the elements into words, they arrived at the inflectional stage. This theory is now abandoned; however, the fact should be retained that a language can pass from one stage to another. Chinese is now isolating, but was certainly not so once (see Otto Jespersen, *Language*, pp. 370 ff.), and English, French, Persian were once heavily inflectional.

Linguistic Interpretation.—The problem is therefore very complex. But the question of the genetic relation also by no means is easy. An Italian scholar said once most aptly that the problem of the relation of languages, which seemed so easy in Schleicher's time, has now become a torment. Through the works of Johannes Schmidt, H. Schuchardt, G. I. Ascoli, J. Gilliéron, and Roman Jakobson, and especially through the efforts of the Italian neolinguists, of whom M. G. Bartoli is the major representative, a new conception of linguistic relation was developed. According to Schleicher's Darwinian conception of language (the stem-theory) a language belonged once and forever to its original group, up to its "death," just as a branch belongs to its tree until it withers. Languages were organisms, living beings, like trees or animals; they were born, lived, and died. Therefore modern English, being descended from Old English, is and must forever remain a Germanic language, just as French or Rumanian, being descended from Latin, are and must forever remain Latin or Romance languages, at least in their essential parts (these being phonetics and morphology, as opposed to vocabulary, which can absorb foreign elements). It is obvious that this

conception, so formulated, is completely anti-historical, inasmuch as it separates language from the men who speak it and makes it an independent entity, over which man has no power, but which evolves inevitably, like an animal or a plant, according to its own interior and mysterious laws.

The neolinguistic conception, on the other hand, on the basis of the study of living dialects, denies the existence of "pure" languages or dialects. The history of language, just as the history of mankind, is a history of perpetual interpenetration, fusion, and transformation, due to historical, human causes. It is nothing but the history of the people who speak it. A definition of English as Germanic is incomplete, just as a definition of French or Rumanian as Latin or Romance; the first one ignores that most of the English vocabulary is Latin or French, just as most of the Rumanian vocabulary is Slavic. But a language does not only change its vocabulary under the impact of a foreign language; it changes also its phonetics, morphology, syntax, and its whole structure.

There is no limit whatever to linguistic interpenetration. If the Anglo-Norman conquest of England had been a little more thorough, if the conquerors had been a little more numerous or more determined to keep their language and impose it on the lower classes, English would now be a Romance language like French, perhaps with a strong residue of Germanic element. The Roman conquest of Gaul was more lasting and thorough than the conquest of, for example, Albania or of the Basque region, and therefore the Celts of France were more thoroughly Romanized than the English were Frenchified; that is why we call French a Romance language, despite its strong Celtic remainders in pronunciation, whereas we do not usually call Albanian a Romance language, despite the enormous influence which Latin (and later Italian) has exerted over it. A language, therefore can shift from one family to another; and in fact this frequently happens, for the language of Gaul belonged once to the Celtic family and it now belongs to the Latin family. Sometimes scholars are in doubt about the classification of some "mixed" languages; but in reality all languages of the world—at least all languages of which the history is well known—are "mixed" or "pidgin."

But this linguistic interpenetration is by no means limited to the vocabulary; it invades without exception every section of language—phonetics, morphology, and syntax. The sound *i* (or *journey, gentle*) and the initial *v* (*value, vintage*) were introduced into English by the French-speaking Anglo-Normans; they, however, can hardly be considered now as "foreign" sounds; English would not be English without them. Likewise, at least one sound of Armenian is of Iranian origin; Armenian would not contain it if it had not come into contact with Iranian. In German, expressions like *der hund, ein hund ich habe gesehen, ich werde sehen, er ist gesehen worden* look phonetically good German; in reality they are nothing but slavish reproductions or "loan-translations" of such French (or rather Gallo-Roman) types as *le chien, un chien, j'ai vu, je verrai, j'ai été vu* (and the same is true of course of the English equivalents *the dog, a dog, I have seen, I will see, I was seen*). They are, as Bartoli most aptly puts it, creations of Germanic matter and Latin spirit; primitive Ger-

manic did not have them and probably never would have produced them, unless it had come into contact with Latin, or rather late Gallo-Latin or Gallo-Roman. It must be added that Latin itself received these constructions from Greek, the ultimate source for these morphological innovations which have invaded all of western and most of northern Europe.

Another important consideration must always be kept in mind. While the relation (or some sort of relation or connection) between two languages can be demonstrated within the above-mentioned limitations, the negative proof never can be given. We never can assert that two languages are not related, and when a scholar does so, he simply oversimplifies and uses a loose and colloquial expression, which has no real scholarly value. Before the discoveries of Filippo Sasseti, Bonaventura Vulcanius, Gaston L. Coeurdoux, Sir William Jones, L. R. Rask, F. Bopp, and others, it was believed that English, Italian, and Hindustani—to take three examples at random—were not related; we now know that they are, that they all belong to the Indo-European family. It is quite possible that some day, through further and deeper studies or through the discovery of new documents, the relation between English (that is, Indo-European) and Semitic, Bantu, or Chinese may be demonstrated; all we can say today is that such a relation has not been proved, or at least not proved to the satisfaction of the majority of the most serious and competent scholars.

Number of Languages.—The question of how many languages are spoken on the globe also is not easy to answer. First we should define exactly what we mean by language. There is no absolute definition of what a language is. The distinction between language and dialect is a moot one. Is Milanese a language or a dialect? How about Slovenian, Provençal, Sardinian, Flemish, Schwyzerdütsch, Portuguese, Catalan, Ladin, White Russian, Slovak, Croatian, Ukrainian? Such a definition is frequently troubled by nationalistic, political, and religious opinions, which are not based strictly on linguistic facts.

The word "language" is frequently used in the sense of literary, standard, or official language of a state, employed in schools, courts, newspapers, stamps, coins, or books, and having a recognized national and international status. If we limit the definition of language to such cases, the languages of the world are perhaps less than 100. There are few more than 50 independent states in the world; and although in the Soviet Union (a federal republic) a certain number of languages (two or three dozen) are officially or semiofficially recognized, Spain and 20 American republics use only Spanish as an official language, while the United States, Great Britain, and the British Dominions use only English. Switzerland also adds no language to the international community, since Ladin has only a semiofficial and rather symbolic value.

Definition of Language.—A definition of language which can be used with profit is based on the possibility of reciprocal understanding. Two persons who understand each other speak the same language; two persons who do not understand each other speak two different languages. Even this definition, however, has its drawbacks; it is difficult to define with any exactitude whether two persons understand each other or not, and to what extent, and on what subjects; many elements

are involved. If, however, we accept this definition and apply it with certain common sense, we reach a total of about 2,800 languages (the French Academy recognizes 2,796). According to such a conception, of course, Chinese—as a spoken language—does not exist, since all Chinese do not understand each other; we must admit in China several "Chinese" languages (at least three or four).

Always following the last definition, we observe that perhaps 2,000 of these 3,000 languages are spoken by a few thousand or even a few hundred persons, or less; such is the case for many American Indian, African, Siberian, and Polynesian languages, used only by a few savages. On the other hand, a few great civilized languages account for about one half of the earth's 2,378,000,000 inhabitants; the "national tongue" of China is understood by perhaps 300 million persons; English by about 250; Hindustani by 160; Russian by about 140; Spanish by 110; then come German, Japanese, French, Italian, Malay, Bengali, Portuguese, and Arabic. The last century has seen a vast augmentation and spread of a few great cultural languages, especially European, and the destruction or assimilation of hundreds or thousands of small languages and dialects. This is the effect of the great world changes which are called industrialization, colonization, and imperialism.

Geographic Extension.—If we look at the geographic extension of the language families, we find a very similar picture. Almost all of Europe and Asia is occupied by five families: the Indo-European, extending from Calcutta to Iceland; the Semitic, occupying all the Arabic states; the Indo-Chinese, covering China, Tibet, and Indochina; the Uralic and the Altaic. Japanese occupies a small, although densely populated, area. The greater area of Africa is also occupied by three or four great language families.

Europe is now covered almost entirely by Indo-European languages. The only exceptions are: Basque, spoken in contiguous zones of France and Spain; Lappish in Northern Scandinavia; Hungarian, a Ugro-Finnic language introduced by invaders in the 10th century; Finnish; Estonian; and a few Ugro-Finnic and Turkic languages in Russia. The Indo-European languages of modern Europe are divided into the following families (clockwise from east to west): Slavic, Baltic, Germanic, Celtic, Romance, Albanian, Greek. These are also unequally distributed as far as the number of speakers is concerned. Greek has about 8 million speakers, Albanian little more than 1, Baltic about 4, Celtic perhaps 3, mostly bilingual. Most of Europe, therefore, is divided among three major groups: Romance, Germanic, Slavic. Slavic accounts for about 200 million speakers, Germanic for somewhat less than that number, Romance for about 150 million. But here again we must beware of false analogies. While the Slavic languages are very close to each other, so that their speakers can understand each other to a great extent, this is not quite true of Romance (especially for French) and even less for the Germanic group, which shows very little unity.

The problem is further complicated by the phenomena of bilingualism, trilingualism, and so forth, which is rare in North America, but frequent in Europe, and even more so in certain regions of Asia.

Language Families.—Here is a list, with

some added comments, of the main language families of the world according to the authoritative work of Antoine Meillet and Marcel Cohen (Paris 1924): (1) Indo-European; (2) Hamito-Semitic (a unity generally, although not universally, accepted); (3) Ugro-Finnic and Samoyede (called Uralic as a unity); (4) Turkic (including Turkish, Mongol, Tunguz); (5) Japanese; (6) Korean; (7) Ainu; (8) Hyperborean (or Palaeo-Asiatic); (9) Ancient Anatolian languages (Khatti is certainly not Indo-European); (10) Basque; (11) Northern Caucasian; (12) Southern Caucasian (perhaps to be united with Northern Caucasian); (13) Dravidian (in central and southern India); (14) Sino-Tibetan; (15) Austro-Asiatic; (16) Malayo-Polynesian; (17) Australian; (18) Sudanese and languages of Guinea; (19) Bantu; (20) Bushman and Hottentot; (21) American Indian languages.

To these should be added at least Sumerian, Urartean-Hurrian, Eskimo, Aleutian, Burushaski (spoken around the Hindu Kush). The unity of all the American Indian languages has been asserted, but certainly not proved (68 families are now generally admitted); and the unity of Australian is also very doubtful (at least 6 different families seem to appear). Some scholars also admit Lati and Andamanese as independent families. Of the ancient tongues of Europe, Etruscan (now extinct) has no certain genetic connection with any other language, living or dead.

On the other hand, a remote genetic relationship between Uralic (Finno-Ugric plus Samoyede) and Altaic or Turkic is admitted by most scholars, although it cannot as yet be considered as a fact.

It must always be kept in mind that in all genetic classifications some classes, such as "American Indian" languages, have a pure geographical, not really linguistic, character.

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LANGUEDOC, lǎng-dōk' (Fr. lǎng-dōk', former province), France, varying very considerably in extent, its unity being entirely a political creation, but including the present departments of Aude, Tarn, Hérault, Lozère, Ardèche and Gard, as well as the arrondissements of Toulouse and Villefranche, in the department of Haute-Garonne; and the arrondissements of Puy and Yssingeaux, in the department of Haute-Loire. Toulouse was its capital.

LANGUR, lün-gōōr', a monkey of the genus *Semnopithecus*, containing large leaf-eating species of the Himalaya Mountains, India, southward into Ceylon, southwestern China and the Malayan region eastward as far as Java. The genus represents an interesting transition-group between the gibbons and the catarrhine monkeys, and includes a large assemblage of species with a long, thin body, tall hind-legs, long, slender tail and no cheek-pouches, such as the entellus, or sacred monkey of the Hindus, the wanderers of Ceylon and several locally conspicuous kinds. These monkeys dwell chiefly in forests and go in troops of considerable size. They feed on leaves and fruit, often doing much damage in native plantations. They rarely descend to the ground, and when disturbed there seek to escape by prodigious bounds; but ordinarily they remain in the treetops, and progress by swinging from branch to branch, often at surprising speed.

LANIARD, or **LANYARD**, lǎn'yērd, a small rope, usually a four-stranded hemp rope, used on a ship. It is employed in setting up rigging, being rove through dead eyes, and in making fast heavier ropes or other objects. The article to which the rope is attached gives it the names bucket-laniard, lock-laniard (for firing the percussion hook of a cannon), etc. A knifelaniard is the broad white tape for carrying a knife around a sailor's neck and is a part of the regulation uniform in the United States Navy.

LANIER, lǎ'nyēr, or **LANIERE**, Nicholas, English musician: b. London, 1588; d. there, February 1666. He came of a family of French musicians who had served for generations in the English royal household. He became a musician in the royal household about 1604 and subsequently was master of the king's music under both Charles I and James I. He followed the royal family into exile and after the Restoration resumed his former post of master of music. He composed the music for Ben Jonson's masques *Lovers Made Men* and *The Vision of Delight*, introducing the Italian *stilo recitativo* into England. Much of his music remains in manuscript. He was also a painter and a connoisseur of art.

LANIER, lǎ-nēr', Sidney, American poet: b. Macon, Ga., Feb. 3, 1842; d. Lynn, N. C., Sept. 7, 1881. His father, Robert Lanier, a lawyer of Macon, came from a family noted for a love of music and art. An ancestor, Jerome Lanier, a Huguenot refugee, was well known at the court of Queen Elizabeth as a musical composer; another forebear, Nicholas Lanier, was director of music at the court of James I and Charles I, and first marshal of the Society of Musicians incorporated at the Restoration. Sidney Lanier's mother, Mary Anderson, belonged to a prominent Virginia family also noted for decided talent for music and poetry. The poet's artistic temperament was therefore a direct inheritance. As a child Lanier was passionately fond of music and without any instruction learned to play on the guitar, piano, flute and violin. A critic said of him in later years: "In his hands the flute was transformed into a voice that set heavenly harmonies into vibration." This passion for music also showed itself in his keen sensitiveness to rhythmic effect. At 14 he entered the sophomore class of Oglethorpe College, Georgia, and after three years graduated with distinction. He was tutor in the college until the outbreak of the Civil War, when he joined the Confederate Army as a private soldier. He fought in several important battles, was transferred to the signal service and finally became signal officer of a blockade runner. In the autumn of 1864 he was captured and confined in Point Lookout Prison. He had taken advantage of every leisure moment to pursue his studies in literature, modern languages and music, and during his long idle hours in prison he gained a complete mastery of the technique of the flute. He was released in February 1865 and made his way on foot to Macon, but the fatigue of the journey added to the previous hardships of camp and prison caused a severe illness which did irreparable damage to his lungs. The years that followed were years of hand-to-hand fight for a subsistence. For two years he was

clerk in a hotel in Montgomery, and there wrote his novel 'Tiger Lilies,' a book of power and promise, but hastily written and poorly sustained; he taught at Prattville, Ala., and studied and practised law with his father for five years in Macon. In December 1867 he married Miss Mary Day of Macon, and her belief in his genius, her willingness to endure with him privation and hardship made possible the valiant struggle and the achievement of the next 14 years. In the autumn of 1873, after an unsuccessful attempt to re-establish his health by a winter in Texas, he determined to move to Baltimore, where he could find greater opportunities for culture. He played the flute in the Peabody orchestra; in the intervals of hemorrhage he wrote articles for magazines; he gave lectures on literature in private schools; and thus, with the generous aid of his father, he supplied the necessities of his family. His study of languages, of Anglo-Saxon and early English texts, of English and of foreign literature, was incessant and systematic. In February 1879 he was appointed lecturer on English literature at the Johns Hopkins University, and this position he held until his death. His two principal courses of lectures at the university are embodied in his 'Science of English Verse' (1879), a thorough and suggestive treatise on English metre, declaring that English verse depends on stress, not accent, and that it is based on certain easily recognized musical rhythms, and 'The English Novel,' a masterly treatment of the development of the idea of personality and its place in the modern novel. Again and again Lanier was driven by illness to Texas, to Florida, to North Carolina, but he was never idle; he studied much, he thought largely on all vital subjects, on love, life, art, economics, religion, and now and then he gave to the world poems of exquisite truth and beauty. In the spring of 1881 it became evident that the unequal fight was nearing its end, and as a last resort he tried tent life in the mountains of North Carolina. The last illness came at Lynn, in Polk County, and on a morning of early September he passed away.

Lanier's most important prose works besides those already mentioned are 'The Boy's Froisart' (1878); 'The Boy's King Arthur' (1880); 'The Boy's Mabinogion' (1881); 'The Boy's Percy' (1882); 'Shakespeare and his Forerunners' (1902). His best-known poems are 'Hymns of the Marshes'; 'Clover'; 'The Song of the Chattahoochee'; 'The Crystal'; 'Corn'; 'The Symphony' and 'The Centennial Meditation.' The distinctive characteristics of his poetry are a wholesome outlook upon life, a constant recognition of the highest in character and in thought and a varied fresh and melodious rhythm. His passion for good and love, his robustness, his high conception of the meaning and power of the love of man and woman, proclaim his close kinship to Browning. In questions of social economics Lanier was abreast of his time; he believed in the rights of the individual, he hated the iron hand of unjust trade, but he realized that these problems must be solved in the "patient modern way." He knew that the great poet must be an artist in sound and color, as well as a thinker, and that no labor was too arduous for perfecting verse forms; to attain perfection in his art the poet must make the mechanical verse fulfil its

vast possibilities, he must gain the mastery over imagination, so that imagination may become his servant. But for Lanier there was no art for art's sake; art was consecrated to man and to God. Like all true poets he lived near to nature, and he has described our Southern scenery with loving faithfulness warmed by vivid imagination. He has given new meaning to "our forests of live-oak beautifully braided and woven with intricate shades of the vine; to our broad fronded fern and keen-leaved canes." The luxuriance of the Southern forests, the wealth of undergrowth, the warmth, the color, the singing birds live in his poetry, but there is no undue heat, no tropical languor. Whittier has not been more faithful to the rocky coasts, to the snowstorms of New England, than has Lanier to the South. His letters and complete poems were edited by his widow with a memoir by William Hayes Ward (New York 1881, 1884, 1906), with bibliography. Consult also 'The Lanier Book' (New York 1904), and Nims, 'Sidney Lanier' (Boston 1905).

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LANJUINAIS, län'zhwe'nä', Jean Denis, COUNT DE, French statesman: b. Rennes, 12 March 1753; d. Paris, 13 Jan. 1827. He took his degree as doctor of laws at 19 years of age and was qualified for the bar at that time. He was appointed counsel for the Breton estates and was a successful legal practitioner when he became professor of ecclesiastical law at the University of Rennes in 1775. He was a deputy in the States-General in 1789 and demanded the abolition of titles of nobility, working valiantly for a constitutional monarchy meanwhile. At the Convention of September 1792 he was charged with reactionary views; but while opposing the extremes of the Mountain and its following, Lanjuinais remained faithful to Republican principles. He denied the right of the Convention to condemn to death Louis XVI, but voted for banishment in the hope of saving the monarch's life. He came under arrest with the Girondins but escaped to Rennes and concealed himself until after the downfall of Robespierre. He returned to the Convention on 8 March 1797 and was president of the Upper House during the Hundred Days. He opposed Napoleon and upon the restoration of the Bourbons he was created a peer. As a member of the tribunal which tried Marshal Ney he voted for exile. He wrote 'Constitutions de la nation française' (1819); 'Appréciation du projet de loi relatif aux trois concordants' (1806; 6th ed., 1827); 'Études biographiques et littéraires sur Antoine Arnauld, P. Nicole et Jacques Necker' (1823), etc. His collected works were published in four volumes in Paris (1832).

LANKESTER, Edwin, English scientist: b. Melton, 23 April 1814; d. 30 Oct. 1874. His early medical studies were attended with difficulty, he had a short course at the University of London, and took his M.D. at Heidelberg in 1839. In 1840 he settled in London as a lecturer and writer, and in 1850 he became professor of natural history at New College, London. He was appointed lecturer on anatomy and physiology at the Grosvenor Place School

in 1853, and in 1853–71 was joint editor of the *Quarterly Journal of Microscopic Science*. His microscopic examination of the water from the "Broad Street Pump," undertaken with Dr. Snow, identified the outbreak of the cholera epidemic of 1854 with the famous pump. He was an indefatigable and popular worker on matters concerning sanitation and public health, many of his articles and lectures being prepared for the layman. His work was taken up by the National Health Society. In 1855 he edited for the prince consort William Macgillivray's 'Natural History of the Dee Side and Braemer' (privately printed). He contributed the article 'Rotifera' to the 'Cyclopædia of Anatomy and Physiology,' and wrote a school manual, 'Health, or Practical Physiology' (1868); 'Lives of Naturalists' (1842); 'An Account of Askern and its Mineral Springs' (1842); 'Half-hours with the Microscope' (1859), etc.

LANKESTER, Sir Edwin Ray, English zoologist: b. London, 15 May 1847; d. 1929; educated at Downing College, Cambridge, and Christ Church, Oxford; elected a Fellow and lecturer of Exeter College, Oxford, in 1872; 1874–90 he was professor of zoology and comparative anatomy in University College, London, and from 1891 till 1898 Linacre professor of comparative anatomy at Oxford. From 1898–1907 he was director of the natural history department of the British Museum. In 1884 was prominent in founding the Marine Biological Association, now located at Plymouth, and in 1869 became chief editor of the *Quarterly Journal of Microscopical Science*. Lankester's works include the following: 'A Monograph of the Fossil Fishes of the Old Red Sandstone' (Part I, 1870); 'Comparative Longevity in Man and the Lower Animals' (1870); 'Developmental History of the Mollusca' (1875); 'Studies in Apus, Limulus, and Scorpion' (1881); 'On Food' (1882); 'The Advancement of Science' (1890); 'Extinct Animals' (1905); 'The Kingdom of Man' (1907); 'From an Easy Chair' (1908); 'Science from an Easy Chair' (1910–12); 'Diversions of a Naturalist' (1915); 'Great and Small Things' (1923).

LANMAN, Charles, American author: b. Monroe, Mich., 14 June 1819; d. Washington, D. C., 4 March 1895. He was educated at the Academy of Norwich, Conn., and went to New York, where he was in business from 1835 to 1845. He then returned to Monroe as editor of the *Gazette*. He afterward joined the staff of the *National Intelligencer* at Washington, D. C. He was private secretary of Daniel Webster in 1850 and secretary to the Japanese legation in Washington in 1871–82. He was at various times librarian of the War Department, librarian of copyrights, of the Interior Department and of the House of Representatives. He prepared the first Congressional biographical directory. He was among the first to explore the mountains in North Carolina. He painted many landscapes and made many sketching trips. He published in all about 32 volumes, including 'A Tour to the River Saguenay' (1848); 'Private Life of Daniel Webster' (1852); 'Dictionary of Congress' (1858); 'The Japanese in America' (1872); 'Leading Men of Japan' (1883); 'Biographical Annals

of the Civil Government of the United States' (1876); 'Haphazard Personalities' (1886), etc.

LANMAN, Charles Rockwell, American Orientalist: b. Norwich, Conn., 8 July 1850; d. Boston, Mass., 20 Feb. 1941. He was graduated from Yale in 1871; and from 1873 to 1876 pursued studies in Orientalism at Berlin, Tübingen and Leipzig, returning in the latter year to accept a fellowship at Johns Hopkins University. In 1880 he became professor of Sanskrit at Harvard. He lectured at many institutions on Oriental subjects, traveled extensively, and from 1879 to 1884 was secretary of the American Philological Association, edited its *Transactions* (Vols. X–XIV), and in 1890 became president of the association. He was corresponding secretary of the American Oriental Society from 1884 to 1894 and in 1896, and served it as vice-president from 1897 to 1907, when he became its president. His published works include 'Noun-Inflection in the Veda' (1880); a 'Sanskrit Reader, with Vocabulary and Notes' (1884–88); 'The Beginnings of Hindu Pantheism' (1890); 'Rāja-Cekhara's Karpūra-mañjarī,' a translation of a Hindu drama of 900 A.D. (1900); and numerous contributions to Oriental and other journals. He projected the 'Harvard Oriental Series' (1891), to which he made several contributions. He received the degree of LL.D. from Yale in 1902, and from Aberdeen University in 1906. In 1909 appeared his 'Pāli Book-Titles and their Brief Designations,' in 'Proceedings' of the American Academy of Arts and Sciences (Vol. XLIV, pp. 661–707, Boston).

LANNER, Joseph Franz Karl, Austrian musical composer: b. Vienna, 12 April 1801; d. there, 14 April 1843. He early showed an aptitude for music, playing the violin and composing music before he had any instruction. He established a quartet with the elder Strauss as viola, which proved the nucleus of a great orchestra. Lanner's genius ran to dance music and he developed the modern waltz from the old Viennese national dance *ländler*. He composed 208 marches and dances, and is generally acknowledged the father of modern dance music.

LANNER, the name of a small "noble" falcon formerly in high repute among European falconers of mediæval times, the identity of which, however, is not quite clear. It was probably the handsome reddish-gray *Falco feldeggii* of the Mediterranean region, still highly valued among Bedouin falconers for its docility and graces. The name is extended to other African and Asiatic hawks of similar appearance and qualities.

LANNES, län', Jean, DUKE OF MONTEBELLO, marshal of France: b. Lectoure, 11 April 1769; d. Vienna, 31 May 1809. He had a scanty education but his physical prowess caused him to be made sergeant in the battalion of volunteers which he joined in 1792 for service in the war with Spain. He had attained rank as colonel when in 1795 army reforms caused his loss of rank. He re-entered the army as a volunteer and went with Napoleon to Italy, and in 1797 rose to the rank of brigadier-general. He had by this time demonstrated to Napoleon his extraordinary ability for hard advanced guard fighting against any odds and

the great Corsican thereafter used him repeatedly to prepare the way for his own crushing attacks. He commanded a brigade in the Egyptian campaign; he accompanied Napoleon to France and distinguished himself at the 18th Brumaire. He was again in command of the advance guard in crossing the Alps in 1800, and at the Battle of Montebello so aided Napoleon that he was created a duke, taking his title from the name of the battle. At Marengo he successfully conducted the hardest fighting.

Lannes was ambassador to Portugal in 1801, and in 1804 he became a marshal of France. At Austerlitz he commanded the advance guard, and in the campaigns of 1806-1807 he rendered signal services. His method at Saalfeld is still studied as a model in the French Staff College. He won further laurels at Jena and at Friedland, then went with Napoleon to Spain as commander in chief of an army with which he won the Battle of Tudela, Nov. 22, 1808. He then engaged in the siege of Saragossa, of which he took possession Feb. 21, 1809. Later in 1809 he was again engaged in an Austrian campaign, leading the army across the Danube. During the retreat from the battlefield of Aspern-Essling, May 22, 1809, he exposed himself recklessly, as was his wont, and was wounded, dying at Vienna. Napoleon entertained for him a deep affection and was bitterly grieved at his loss. He was one of the ablest of the marshals of France, possessing signal ability for high command, and remarkable daring and strength as a leader.

LANOLIN, the commercial designation of a fatty substance obtained from the grease of sheep's wool, and consisting principally of cholesterol. It is soluble in alcohol, in ether, and also in benzene. The wool grease is saponified by means of caustic soda, and the resulting emulsion is diluted with water. The lanolin then separates in fine particles, which, by the aid of a centrifugal separator, may be obtained in a creamy mass. The lanolin of commerce contains about 30 per cent of water. Lanolin is very generally used as a basis in the preparation of salves and ointments, since it does not grow rancid, and is itself antiseptic to a certain extent. It absorbs water, and it is widely believed that it penetrates the tissues of the body much more freely than lard or vaseline, although this has not been borne out by experiments.

LANSBURY, länz'bēri, **George**, English Labour Party leader: b. near Lowestoft, Suffolk, Feb. 21, 1859; d. London, May 7, 1940. He was educated in London and in 1884 emigrated to Queensland, Australia, but returned in the next year, settling in London in the timber business. He soon came under the influence of the Christian Socialists, but in 1890 joined the Socialist Party (then the Social Democratic Federation). He was defeated in attempts (from 1895) to enter Parliament, until 1910 when he became member for Bow and Bromley. In 1912, however, standing as an independent in favor of woman suffrage, he was defeated. He was again member for Bow and Bromley from 1922 until his death. Lansbury was mayor of Poplar, 1919-1920 and 1936-1937, first commissioner of works, 1929-1931, and leader of the Labour Party in the parliamentary opposition from 1931 until 1935, resigning because, as a pacifist, he could not support the rearmament program and the

League of Nations sanctions against Italy. Lansbury edited many Labour Party periodicals, notably the *Daily Herald*, from 1912 to 1922.

LANSDALE, länz'däl, borough, Pennsylvania; in Montgomery County; altitude 355 feet. It is situated 21 miles north of Philadelphia, on the Reading Railroad. A residential town in a dairy and poultry region, it manufactures hosiery, clothing, electronic equipment, tiles, and metal products. There is a public library and a hospital. It was incorporated in 1872. Pop. (1950) 9,762.

LANSDOWNE, 1st Marquis of; more generally known as Lord Shelburne. See **SHEL-BURNE**, **WILLIAM PETTY FITZMAURICE**, **LORD**.

LANSDOWNE, länz'doun, 5th Marquis of (**HENRY CHARLES KEITH PETTY-FITZMAURICE**), British statesman: b. London, Jan. 14, 1845; d. Clonmel, Ireland, June 3, 1927. He was educated at Eton and Oxford, and entered politics as a member of the Liberal Party. He was one of the lords of the treasury, 1869-1872; undersecretary for war, 1872-1874; undersecretary for India, 1880; and from 1883-1888 governor general of Canada. From 1888 to 1893 he was viceroy of India; from 1895 to 1900 he was in Lord Salisbury's government as secretary of state for war; and from 1900 to 1905 was secretary of state for foreign affairs. His tenure of office in the last-named post was marked by the further cementing of the alliance with Japan and the growth of the entente with France.

The rejection by the House of Lords under his leadership of David Lloyd George's budget of 1909 was followed by the passing of the Parliament Act of 1911 which curtailed the powers formerly possessed by the House of Lords. Lord Lansdowne was a member of the Asquith coalition government from 1915 to 1916 as a minister without portfolio. His inopportune letter to the *Daily Telegraph*, Nov. 29, 1917, asking for a more definite statement of Allied war aims in the hope of shortening World War I, raised a storm in the press and led to unfair accusations of disloyalty.

LANSDOWNE, länz'doun, borough, Pennsylvania; in Delaware County; altitude 205 feet. It is situated 5 miles west of Philadelphia, on the Pennsylvania Railroad. Lansdowne is a residential suburb of Philadelphia, with a few small industries, including steel castings, paper, bluing, abrasives, and food coloring. It was incorporated in 1893. Pop. (1950) 12,169.

LANSFORD, länz'fērd, borough, Pennsylvania; in Carbon County. It is situated 28 miles south of Wilkes-Barre, on the Lehigh and New England Railroad. Located in the center of the Panther Creek Valley anthracite coal fields, it has extensive coal mining interests, and manufactures clothing, drugs, and chemicals. It was settled in 1845, incorporated in 1876, and named for Asa Lansford Foster, mining engineer. Many old Slavic customs are observed by miners who are of Slavic descent. Pop. (1950) 7,487.

LANSING, **John**, American jurist: b. Albany, N. Y., Jan. 30, 1754; d. Dec. 12, 1829(?). He studied law in Albany and New York; was engaged in practice at the beginning of the revolution, during a period of which he served as

military secretary to Gen. Philip J. Schuyler. In 1784 he was elected to Congress, and while a member of that body was elected to the lower house of the New York legislature, where he was chosen speaker in 1786, in which year he also became mayor of Albany. For a short time he represented New York, in the Constitutional Convention (1787), which he left because he held that he had been sent to participate in an amendment of the Articles of Confederation and not in the forming of a new constitution. In 1788, at the New York convention, his opposition to the ratification of the Constitution was stoutly maintained. From 1801 to 1814 he was chancellor of the state. He declined the Anti-Federalist nomination for governor of New York in 1804. He disappeared mysteriously in New York City on Dec. 12, 1829, after having quitted his hotel to post a letter on a wharf nearby.

LANSING, Robert, American statesman: b. Watertown, N. Y., Oct. 17, 1864; d. Washington, D.C., Oct. 30, 1928. After graduating from Amherst College he was admitted to the New York bar and began to practise law in his native town. On various important occasions he was engaged by the United States government on international questions, among them the Bering Sea Fur-Seal Arbitration (Paris 1892-1893), in which he served as counsel and technical delegate; the Bering Sea Claims Commission (1896-1897), Alaskan Boundary Tribunal (1903), North Atlantic Coast Fisheries Arbitration (1909-1910) and the American and British Claims Arbitration (1912-1914). He was appointed counsellor for the Department of State in March 1914. On the unexpected resignation of William Jennings Bryan from the office of secretary of state on June 8, 1915, President Wilson on the following day authorized Lansing to perform the duties of that office "for a period not to exceed thirty days, until a Secretary shall have been appointed and have qualified." The subsequent definite appointment of Lansing as secretary of state proved a fortunate choice. In the delicate negotiations with foreign powers which he conducted during 1915, 1916, and 1917, he displayed a statesmanlike breadth of view and a judicial grasp of essential points. The unrestricted submarine policy of the German government, involving diplomatic duels with ambassadors and foreign offices, and the intricate problems arising under international law from the British and French attitude with regard to the rights of search and blockade, in addition to many other thorny questions concerning the difficulties of neutrality, were alike handled by him with diplomatic skill and tact. He was a member of the American delegation to the Paris Peace Conference. Differences regarding foreign policy led to an estrangement with President Wilson, and, in February 1920, he resigned.

LANSING, city, Michigan, state capital, in Ingham County, lies at an altitude of about 860 feet (capitol cornerstone), in the south central part of the Lower Peninsula, at the junction of three rivers—the Grand, Red Cedar, and Sycamore. These rivers wind through the city and are spanned by bridges. The capital city is located in a rich agricultural area, 46 miles southwest of Flint and 84 miles northwest of Detroit by air; and is served by the Chesapeake and Ohio (Pere Marquette Divi-

sion), the New York Central, and the Grand Trunk railroads. For motor transportation, Lansing has federal and state highways which converge on it from all directions. Three miles northwest of the city is a state-owned airport which has scheduled airline service. The importance of Lansing does not depend upon its political position alone; it is a manufacturing and banking center, and a shopping point for central Michigan. Among the products of the city's manufacturing plants are automobiles, trucks, trailers, tractors, lawnmowers, wheels; spraying, fire-fighting, and garage equipment; tools and dies, tents and awnings, chemicals, beet sugar, and flour. Banking institutions include a national bank, two state banks, a trust company, and three building and loan companies.

The city, 14.5 square miles in area, has a mayor-council form of government and is practically debt free (1951). While natural gas is supplied by a private company, the city owns the electric light and power system. In addition to its 30 public schools, Lansing's educational facilities include 5 parochial and 3 business schools, 2 state institutions—the Michigan School for the Blind and the Michigan Vocational School for Boys; and at its doorstep (in East Lansing, q.v., which adjoins the capital and is its cultural center) is the Michigan State College of Agriculture and Applied Science (q.v.). Lansing has a public library; and the state library, containing some 500,000 volumes including an important collection of Michigania, is located in the Michigan State Office Building. In February 1951, an incendiary fire in this building destroyed about 25,000 volumes, and badly damaged a larger number. The extension service of the state library serves institutions throughout Michigan, including schools and other libraries. The State Office Building also contains a historical museum with exhibits of Michigan pioneer and Indian relics. Nearby and situated on spacious grounds is the capitol (1878), built of white sandstone, 420 feet in length, 273 feet in depth, and 276 feet high. Quite different is another of Lansing's interesting buildings—the Olds Tower, a narrow skyscraper of an office building, 345 feet in height.

History.—Lansing had already been named for a village in New York from which some of its few settlers had come when, in 1847, it became the state capital, replacing Detroit. When Michigan's legislators chose the site, Lansing was a dense forest interrupted only by a saw mill and a single log house, erected in 1843. As soon as the decision was made to move the capital, newcomers flocked to the site to take advantage of the news. By 1859, when Lansing was incorporated as a city, it had several small manufactures, stores, hotels, a newspaper, a school, a college for women, the state college in what is now East Lansing, and a brick capitol replacing an earlier frame building. The following year, when Lansing's first federal census was taken, the city's residents numbered 3,074. The city's future was uncertain, however, until 1871. Then the first railroad reached it, giving more promise of commercial and industrial possibilities, and the city's political position was finally settled by the legislature's decision to build a new (the present) capitol there. Lansing was soon one of the important centers in the state for the manufacture of carriages, wheels, and wagons. Rapid growth, however, came

about the turn of the 20th century when Ransom E. Olds formed the two companies that introduced the public to Oldsmobiles and Reo motor cars. The manufacture of automobiles in Lansing stimulated allied industries there. In 1890, Lansing's population was 13,102; by 1920, it had risen to 57,327. In 1950, it totaled 91,694.

LANSING MAN, a term applied to a collection of human bones, found near Lansing, Kans., 20 feet below the surface of the earth, under a stratum of carboniferous limestone. The skull, which was well preserved, measured: maximum length, 188 mm.; breadth, 138 mm.; cranial index, 73.4. From the date of this discovery in 1902, men of science have been divided in their opinion as to the antiquity of the remains. It is now generally agreed that the skull does not represent an ancient type of man. The skull is preserved in the United States National Museum, Washington, D.C.

LANSON, län-sôn', **Gustav**, French critic: b. Orléans, Aug. 5, 1857; d. Paris, Dec. 15, 1934. He was educated at the Lycée d'Orléans, the Lycée Charlemagne and the École Normale Supérieure, receiving the degree of doctor of letters. He engaged in the teaching of rhetoric and later became professor of French literature at the University of Paris, and at one time he was engaged in teaching in the United States where his methods have been adopted by several universities. He was a member and officer of several French literary societies and an officer of the Grand Legion of Honor. His works include *Nivelle de la Chaussée et la Comédie Larmoyante* (1887); *Histoire de la Littérature Française* (1894; 2 vols., 1923); *L'Idéal Français dans la Littérature, de la Renaissance à la Révolution* (1928).

LANSQUENET, län'skë-nët, the name given during the late 15th and 16th centuries to the German mercenaries in France, the word being a French corruption of the German *Landsknechte*. They were found fighting on both Catholic and Protestant sides in the wars of religion, and usually fought as separate units under their own officers.

LANSQUENET, a card game for several players. A full pack of 52 cards is used, or sometimes two packs shuffled together. It is a species of banker game. The dealer being determined, he places the two top cards face upwards upon the table. These form the hand cards, and no bets can be made upon them. He then proceeds to give one faced card to himself, and one to each player or punter. If any card dealt is of the same denomination as either of the hand cards, it must be placed upon them. The banker continues to turn cards from the top of the pack so long as his own remains unpaired by one of a similar denomination. Should he draw a similar card to his own, the other players win all their stakes. But each time he pairs one of the players' cards, the banker appropriates all stakes upon that particular card. As each card is matched, the banker withdraws that pair.

LANTERN, an enclosure for a light protecting it from the wind. Lanterns were used by the ancients in augury. They were also carried before troops on the march by night, being then borne on the top of pikes, and so

constructed as to throw the light backward. Dark lanterns are provided with only a single opening, which can be closed up when the light is required to be hidden, or opened when there is occasion for its assistance to discover some object. See also **LAMP**.

In *architecture*, a small structure on the top of a dome, or in other similar situations, for the purpose of admitting light, promoting ventilation, or for ornament, of which that on the top of the capitol at Washington may be referred to as an example. In Gothic architecture the term is sometimes applied to *louvers* on the roofs of halls, etc., but it usually signifies a tower which has the whole height, or a considerable portion of the interior, open to view from the ground, and is lighted by an upper tier of windows. Notable examples are the Cimborio of Burgos Cathedral, the celebrated example of Coutances Cathedral, Normandy, and the equally famous octagon of Ely Cathedral.

The elaborate lighting fixture, with its prisms, in a lighthouse.

LANTERN FISH, a general term for the luminous fishes of the depths of the sea, most of which belong to a single group (Iniomi).

LANTERN FLIES, homopterous bugs with membranous forewings concealing the folded hinder wings when the insects are at rest, and the head greatly prolonged and said to be light-giving in some tropical species. They feed upon plants and deposit their eggs in slits cut in the bark. The best-known species is the candle fly (*Fulgora laternaria*) of tropical America, but the luminosity alleged of it is an old story not recently verified. Many other popular beliefs are attached to the insect. It is said in Brazil, for instance, to be so poisonous that anything against which it strikes its long beak will fall dead.

LANTERN OF DEMOSTHENES. See **LYSICRATES**, **MONUMENT OF**.

LANTERN SLIDE, a transparent picture on glass used for projection on a screen by an optical or magic lantern. Though they were formerly largely painted by hand, lantern slides are now chiefly photographs on glass, made by printing from negatives on plates coated with emulsion as for bromide paper, or, commercially, by the wet-collodion process. The finished slide is bound up with a protecting cover glass.

LANTERNS, **Feast of**, a religious ceremony held in China on the 15th day of the first month of the year. It derives its name from the vast number of lanterns which are hung out of the houses and in the streets. The lanterns used are often of great value, being richly ornamented with gilding, painting, japanning and sculpture, and some of them are of great size, reaching nearly 30 feet in diameter, and are so constructed as to resemble halls or chambers.

LANTHANUM, län'thà-nüm, a rare metallic element resembling cerium in its general properties, discovered by Mosander, in 1839, in the Swedish mineral cerite. It has the chemical symbol La, and an atomic weight (for O = 16) of 138.19. Its melting point is between that of antimony (840°F.) and silver (1740°F.). It has

a specific gravity of 6.16, and a specific heat of 0.0448. It is a white metal, moderately ductile and malleable. It oxidizes rapidly upon exposure to the air, and decomposes water slowly when cold, and rapidly when hot. It dissolves readily in acids, with the formation of corresponding salts, which are mostly colorless, with an astringent taste. The metal is prepared by the reduction of its chloride by metallic potassium, and the subsequent removal of the potassium chloride that is formed, by washing with alcohol. Neither lanthanum nor its salts are of any industrial importance. The name is from a Greek word meaning "concealed" in allusion to the fact that lanthana, the oxide, was for a time confused with the oxides of other rare metals belonging to the cerium group. Lanthanum occurs, as a silicate, in the minerals cerite, gadolinite, orthite and allanite; as a carbonate in lanthanite occurring in Lehigh County, Pa., and Essex County, N. Y.

LANZA, län'tsä, **Gaetano**, American mathematician and engineer: b. Boston, 26 Sept. 1848. He was educated at the University of Virginia, and for two years was an instructor there; was an instructor and assistant professor at the Massachusetts Institute of Technology (1872-75); professor of theoretical and applied mechanics (1875-1911), in charge of the department of mechanical engineering (1883-1911), and after 1911 professor emeritus. He served at various times as consulting engineer and in 1906-11 was president of the Mathematical and Physical Club. He was a Fellow of the American Academy of Arts and Sciences, a member of the British Association for the Advancement of Science, and of other scientific bodies here and in Europe. He published 'Applied Mechanics' (1885; 9th ed., 1905), and 'Dynamics of Machinery' (1911), and his writings include many papers presented to scientific societies. He died in 1928.

LANZAROTE, län-thä-rö'tä, one of the Canary Isles, the most easterly of the group, about 90 miles from the African coast; area, 235 square miles; greatest length, 31 miles; breadth, 5 to 10 miles. Its coast is in general very bold, and presents ranges of basaltic cliffs rising in some parts to 1,500 feet; its interior is rough in surface, and contains several mountains, the loftiest of which has a height of 2,000 feet. The only port of any consequence is Arrecife. Pop. 19,261.

LANZI, län'tsē, **Luigi**, Italian antiquary and art critic: b. Monte dell' Olmo, near Macerata, 1732; d. Florence, 30 March 1810. He was educated for the priesthood, entering the order of the Jesuits. He became keeper of the galleries of Florence in 1773 and through study and research became an authority on Italian painting and Etruscan language and antiquities. He was buried beside Michelangelo in the church of Santa Croce at Florence. His writings include 'Storia Pittorica della Italia' (1792, 1796); 'Saggio de lingua Etrusca' (1789); 'Saggio delle lingua Italia antiche' (1806); 'Dei vasi antichi dipinti volgarmente chiamati Etruschi' (1806), etc. He also wrote verse, edited and annotated Hesiod, 'Works and Days,' and he wrote a number of treatises on spiritual subjects.

LAO-TSE, lä'ö-tsä, or **LAO-TSEU**, Chinese philosopher: b. Kih-jin about 604 a.c. The

date of his death is unknown, but some early writers think he attained the age of 160. His primal name was Li Uhr, but as he became distinguished he was called Lao-tse, or venerable philosopher. He was the founder or reformer of one of the most ancient and important religious sects of China, known as the Tao or sect of reason. He was a historiographer and librarian to a king of the Chow dynasty; traveled to the borders of India, where he may have become acquainted with Buddhism; met Confucius and reproached him for his pride, vanity and ostentation; was persuaded to record his doctrines in a book, which he did in the 'Tao-ti-king' or 'The Path to Virtue'; and on completing this task is reputed to have disappeared into the wilderness, and there ascended to heaven. According to him silence and the void produced the Tao, the source of all action and being. Man is composed of two principles, the one material and perishable, the other spiritual and imperishable, from which he emanated, and to which he will return on the subjugation of all the material passions and the pleasures of the senses. Lao-tse's moral code is pure, inculcating charity, benevolence, virtue and the free-will, moral agency and responsibility of man. Since the 2d century of our era the sect has continued to extend over China, Japan, Cochinchina, Tonquin and the Indo-Chinese nations. See TAOISM.

LAOAG, lä-wäg', Philippines, capital of the province of Ilocos Norte, Luzon, on the Grand de Laoag River, four miles from its mouth. It is picturesquely situated in a fertile plain and is well built; it is open to the coastwise trade and is the centre of shipment for the agricultural products of the region. Rice, indigo, tobacco and sugar are the principal products. The name signifies "clearness" from the fact that the sky and atmosphere are almost continuously clear. Pop. about 47,024.

LAOCOÖN, lä-ök'ö-ön, a priest of Apollo at Troy. As he was sacrificing a bull to Poseidon on the shore, two serpents swimming from the island of Tenedos advanced to the altar. The people fled, but Laocoon and his sons fell victims to the monsters. The sons were first attacked, and then the father. Winding themselves round him, the serpents raised their heads high above him, while in his agony he vainly endeavored to extricate himself from their folds. They then retired to the temple of Pallas Athene, where they took shelter under her shield. The people saw in this omen Laocoon's punishment for his impiety in piercing with his spear the wooden horse consecrated to Athene. The story has frequently furnished a subject to the poets, but it is chiefly interesting to us as having given occasion to a fine work of sculpture—the Laocoon group, now in the Vatican. It was discovered in 1506 on the site of the baths of Titus. Pope Julius II bought it and placed it in the Vatican. Its preservation was perfect, except that the right arm of Laocoon was wanting: this was restored by a pupil of Michelangelo. This group is of the dramatic Rhodian school, and by no means belongs to the best style of Greek sculpture. Yet it has been much treated of in literature, especially by Goethe, Heine, Lessing, Winckelmann and Herder. It represents three persons in agony, but in different attitudes of struggle

or fear, according to their ages. Pliny declares it was made of one stone by the sculptors Agesander, Polydorus and Athenodorus, all natives of Rhodes, and the two latter probably sons of the former.

Lessing makes it probable that those three artists lived under the first emperors. It may be fairly doubted whether the statue mentioned by Pliny is the same as that we now have; acute observers have found that the group does not consist of one block, though the junctions are carefully concealed. To this it may be answered that they were not perhaps perceptible in the time of Pliny. Several copies have been made; one in bronze, from a model by Giacompo Tati or Sansovino, which was carried to France. Baccio Bandinelli made a copy which is in the Medici Gallery at Florence.

LAODAMIA. Wordsworth's 'Laodamia,' published in 1815, is a narrative poem in stanzas dealing with the classical story of Protesilaus, a Greek hero who sacrificed himself in fulfillment of the oracle which declared that victory should be the lot of that party from which should fall the first victim in the Trojan War. According to the legend, as narrated by Wordsworth, Laodamia, the wife of Protesilaus, prays to the gods that her husband may return to her from Hades. He does so and relates the story of his death at the hands of Hector, rebuking the excessive passion of his wife, who cannot bring herself to consent to his return to the shades of death. Summoned by Hermes the spectre departs, leaving Laodamia a lifeless corpse upon the palace floor. The poem closes with a description of the trees which grew from the tomb of each and withered at the top when they had attained such a height that they commanded a view of the walls of Troy. The underlying idea of the poem is the weakness of the soul exemplified in Laodamia, whose uncontrolled love makes her incapable of lifting her heart to a "higher object" and accepting her husband's sacrifice and fate. Both the motive of the piece and its classical atmosphere reflect the change in point of view which Wordsworth experienced in his maturer years. (See *ONE TO DUTY*). Its beauty of style and calm nobility of tone make it one of Wordsworth's unquestionable masterpieces. The poem bears traces of the influence of Virgil, whom the poet was rereading at the time. In an earlier version Laodamia is more pitied than condemned. Later the ethics of the poem seemed to require her punishment. The present ending, adopted in 1845, is a kind of compromise. Consult notes in Dowden's 'Poems by Wordsworth' (Athenæum Press Series).

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LAODICEA, lā-ōd-ī-sē'a, the ancient name of eight places in Asia Minor including (1) Laodicea, now called by the Turks *Eski Hissar* (Old Castle), an ancient ruined city, once the capital of Greater Phrygia, 120 miles east of Smyrna, the site of one of the seven primitive Christian churches of Asia. Nothing but very extensive ruins of inferior architectural merit remain to point out the locality of this interesting city. (2) Now Ladik, a city of Lyconia, north of Iconium. (3) An ancient city of Syria, founded by Seleucus Nicator, which stood to the northeast of Baalbec, in a plain watered by the Marsyas.

LAODICEA, Council or Synod of, council held at Laodicea ad Lyceum in Phrygia in the 4th century. The exact time of the council is disputed, Hefele placing it between 343 and 381, while Baronius maintains 314 as the correct date, and other years as late as 399 are considered by different authorities. The council was composed of 32 bishops from the provinces of Asia and the results of its rulings are produced in 60 canons which were pronounced as binding upon the Christian creeds throughout the world by the Council of Chalcedon in 451. The canons are disciplinary in the main and make a privileged class of the clergy, but regulate strictly ritual, precedents, heresy, baptism, fasts, angel-worship and other matters of form and faith. From the list of canonical books notable omissions are those of the Apocrypha and the Revelation. The canons are published in Hardouin, 'Conciliorum Collectio' (Vol. I, 1875).

LAOKOON. To the scholarly world outside of Germany 'Laokoon' (1766) is probably better known than any other of Lessing's works—an interesting poem by Matthew Arnold testifies to its fame. It represents the culmination of a wave of critical inquiry which swept over the whole of western Europe; with regard to contemporary poetic practice it was a polemic of irresistible timeliness; and in every respect it is a characteristic work of its clear-headed and sure-handed author.

'Laokoon' has to do with the boundaries of painting and poetry. It delimits the respective fields of sister arts which have indeed much in common, but properly possess each a special sphere. Mutual accommodation may be expected of the sisters, and is provided for; nevertheless, either can only at her peril invade the peculiar domain of the other. So much had been recognized in Europe since the time of the Renaissance. Italians, Frenchmen and Englishmen—all of the more important of them known to Lessing—had for generations meditated and written on the problems that he treated, and some had endeavored to distinguish what belonged to one sister from what belonged to the other. But the prevailing tendency had been to assimilate, to evaluate and to compare, whereas he contrasted. Before Lessing two texts from antiquity had been thought to warrant emphasis upon likeness: Horace's phrase in the 'Art of Poetry' *Ut pictura poesis* ("as a picture is, so is poetry") and the saying attributed to Simonides of Ceos, "A picture is mute poetry; poetry is a speaking picture." There were recognized, however, the facts that speaking takes time, and sight may be momentary; that a mute object is an object in space, whereas words—the medium of poetry—neither are objects nor have any existence in space: in short, that both the matter and the manner of poetry and painting are, as Plutarch had declared, different one from the other.

Differences in manner or medium of artistic creation are manifest: forms and colors are in no sense like words or language. That the matter suitable to the two arts is also different was demonstrated by Diderot, when he invited attention to the treatment of one and the same subject in the two media, and showed how absurd would be the appearance on canvas of a man submerged up to his head, in spite

of the effective handling of such a scene in the poetry of Virgil.

This hint, and a similar one from Winckelmann and Moses Mendelssohn with reference to the statue of Laocoön, and Virgil's narrative in the second book of the *'Æneid.'* gave Lessing the starting point for his discussion;—for his discussion, not for the development of his ideas; these he had derived from consideration of the practice of Homer, a practice vividly brought to Lessing's attention by a passage in Burke's essay *'On the Sublime and Beautiful.'* Upon the basis of first principles discovered in Homer, Lessing built up his theory of the fundamental difference between poetry and painting. But the first 15 chapters of *'Laokoon'* pursue an inductive method to which he gave a casual air by taking up the views of three of his most distinguished predecessors: Winckelmann, Joseph Spence and Count Caylus. Then, in chapter 16, he formulated his results in dogmatic, deductive fashion, essentially as follows: The symbols, or means of expression, in painting are lines and colors; the symbols, or means of expression, in poetry are articulate words. Lines and colors are properties of bodies, the parts of which coexist in space; articulate words have no existence in space, but succeed one another in time. If, therefore, as is evident, there should be a suitable relation between the subject of artistic treatment and the means employed, the proper subject for painting is something, the constituent parts of which coexist in space, i.e., *bodies*; and the proper subject for poetry is something, the constituent parts of which succeed one another in time, i.e., movements or, in general, *actions*. Painting can represent action only suggestively, by means of bodies; poetry can represent bodies only suggestively, by means of action. Painting can represent only a single moment, but can suggest other moments; poetry can present a body to view, but will give it the aspect which it bears at a definite moment, the moment of mention. The painter will choose a pregnant moment, i.e., one which gives the imagination free play with cause and effect; and the poet will choose a significant aspect, i.e., one which gives the imagination a vivid picture of present reality. But the painter will suggest, he cannot tell, a story, and the poet will present, he cannot exhaustively describe, a body—instead, he will translate a work into the terms of an operation, and will transform beauty into grace. Grace is beauty in motion. Space is the realm of the painter; the realm of the poet is time.

Lessing's treatise was a protest against two abuses that ran riot in his day: excessive allegorizing in painting, excessive detailed description in poetry. Painting subordinated beauty to "poetic" substance and ran the risk of unintelligibility; "pictorial" poetry dissipated its energy in the vain endeavor to assemble the parts of extensive objects which defied imaginative unification. Lessing was more concerned with poetry than with painting; he was a poor visualizer, but quick to respond to sensory-motor appeal. Further, he cared more for ideas than for things, more for action than for being. His rationalistic mind dealt chiefly with the objective aspect of arts which must, in the last analysis, justify their methods by

their subjective effect upon the whole man, the sensuous even before the rational. But he made a theoretical distinction which is unsatisfactory, however much it may be subject to modification when applied to specific cases. Lessing himself was ready and willing to relax the rigidity of his demarcations. The *'Laokoon'* as we have it is but the first part of a treatise planned to comprehend music and dancing as well as painting and poetry. We need not regret that it remained a fragment. What the treatise gained in completeness it might have lost in incisiveness. The first part, that we have, is a masterpiece of composition, a work of art, in which discussion of abstract principles is made marvelously concrete and stimulating. Translated by Ellen Frothingham (Boston 1874), and by Sir Robert Phillimore (London 1874). Edited by W. G. Howard (New York 1910). Cf. Irving Babbitt, *'The New Laokoon'* (Boston 1910).

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LAOMEDON, Greek mythological character, son of Ilus, king of Troy and father of Priam (Podarces). By command of Zeus Laomedon was served by Apollo and Poseidon, Apollo tending his flocks and Poseidon building the walls of Troy which Laomedon founded. Laomedon refusing the compensation agreed upon the country was visited by a pestilence sent by Apollo and a sea monster sent by Poseidon. The oracle declared that relief could be obtained only by the sacrifice to the sea monster of one of Laomedon's daughters. Lots were cast and Hesione was chosen and chained to a rock to await the sea monster's coming. Here Hercules found her and promised to free her in exchange for the magic horses given to Tros, the father of Ganymede, to comfort him after the loss of his son. Laomedon again broke his word and Hercules returned, destroyed Troy, killed Laomedon and all his sons except Priam who had opposed his father's methods. Hercules carried away Hesione and placed Priam upon the throne. It was said that so long as the grave of Laomedon remained inviolate by the Scæan gate the walls of Troy would remain impregnable.

LAON, lān, France, capital city of the department of Aisne, 87 miles northeast of Paris. It has been from earliest times a fortified city, owing to its situation upon commanding ground. It was the ancient *Ladunum* and was fortified by the Romans in the 5th century. The invasions of the Franks, Vandals, Huns and others were checked here in early times; in the Hundred Years War Laon changed hands several times, being held successively by the Burgundians, English and French. Napoleon here was defeated by Blücher in 1814, and in the Franco-Prussian War Laon fell into the hands of the Germans. In the European War Laon again fell before the Germans in the autumn of 1914 and remained within the famous "Von Hindenburg line" until the closing campaign of 1918. The cathedral of Laon was built in the 12th and 13th centuries and is considered one of the most important Gothic structures in France. There is an old episcopal palace, now in use as a courthouse; the 13th century

gates of Ardon, Chenizelles, and Soissons; and the ancient abbey of Saint Vincent and the church of Saint Martin, built in the 12th century. It has sugar and metal-manufacturing industries, and is famous for its artichokes, asparagus, and fruits. Pop. (1946) 17,401.

LAOS, lä'ōz, or **LAOTIANS**, division of the Thai or Shan peoples of Indochina, occupying territory in northern Burma and also in the French associated state of Laos (q.v.). The Laos originally came from the Chinese provinces of Yunnan, Szechwan, and Kweichow, expelling the aboriginal Kha tribesmen. There are two distinct divisions of the Laos—the Lao Pong Dam, or North Laos, and the Lao Pong Kao, or Eastern Laos. They possess a written language, the Lao Pong Dam deriving theirs from the Burmese, while the Lao Pong Kao is similar to the Siamese. The physical characteristics of the Laos are low stature, yellow complexion, high cheek bones, small, flat nose, oblique eyes, black hair, and scanty beard. Their religion is Buddhism. While polygamy is practiced, it is rare, and the women of the Laos enjoy considerable freedom and are kindly treated. They have a distinct taste for music, their instrument being the *khen*, a mouth organ of rather sweet tone; and they have a considerable development of folklore. As a whole the Laos are lazy but peace-loving; they are superstitious, crediting disease to evil spirits and believing in werewolves. Men, women, and children alike are addicted to tobacco smoking. The Laos are of a friendly, pleasant disposition, too easygoing to compete successfully in commerce. Their chief occupations are along agricultural lines in connection with rice, silk, and the tending of herds. Such arduous labor as the cutting of teak timber in the forested mountains is performed for the most part by the wilder, primitive tribes.

LAOS, kingdom, French Indochina, an associated state of the French Union; it was formerly a French protectorate. The area is 89,320 square miles, and the population was estimated in 1949 to number 1,208,000. It is bounded on the north by the Chinese province of Yunnan, on the east by Viet Nam, on the south by Cambodia, on the southwest and west by Thailand, on the northwest by Burma. The country is mountainous, peaks in the north exceeding 9,000 feet and those in the south being some 5,000 feet in height. Most of Laos lies to the eastward of the Mekong, a river which forms the boundary with Burma and Thailand. Vientiane, the capital, is on the Mekong; other towns include Luangprabang and Thakhek. Laos has a drier climate than other parts of French Indochina; rains fall from June to October, during the southwest monsoon. Besides Laos the inhabitants include considerable minorities of Thais, aboriginal peoples, and Chinese. The country is rich in wild animals, including the elephant, tiger, and gaur. In the forests are many valuable hardwoods, notably teak, as well as bamboo and rattan. Large quantities of rice are cultivated, and other products include corn (maize), coffee, tea, sugarcane, tobacco, and citrus fruits. Tin, gold, and silver deposits are exploited, and there are also precious stones and copper and other minerals. There are no railroads in Laos, but good highways link the main centers of population. Although there are numerous waterways in the northern part of the

kingdom, transportation is hindered by many rapids and waterfalls.

Laos was not a single kingdom but numerous petty states prior to 1828, when the country was annexed by Siam. In 1893 France demanded that Siamese forces be withdrawn from all territory east of the Mekong, and Siam was forced to yield after a 10-day naval blockade of the capital city of Bangkok. The French government then established a single protectorate administration for the whole of Laos, which included the small state of Luangprabang, a native king having some restricted authority. In 1941, during World War II, the Japanese forces occupying French Indochina compelled Laos to cede three of its 11 provinces to Thailand, but at war's end these were restored to the kingdom. On July 19, 1949, France concluded a treaty with Laos recognizing the kingdom as an independent sovereign state within the French Union, and this was ratified by the president of France on Feb. 2, 1950. See also FRENCH INDOCHINA.

LAPAROTOMY, läp'à-rõt-ô-mi, surgical operation consisting of the opening of the abdomen by making an excision in the loin or flank in order to reach the abdominal cavity or pelvic viscera.

LAPEER, lä-pēr', city, Michigan, seat of Lapeer County, situated on the Flint River 20 miles east of Flint. It is served by the Michigan Central and the Grand Trunk railroads. The city is in a fertile agricultural region, and is an important trading center for poultry, grain, and dairy farms. At one period it was a center of the lumbering industry, and it now manufactures bookcases, cabinets, cedar chests, iron castings, equipment for aircraft, and insect exterminators. The county courthouse, erected in 1837, is the oldest now in use in Michigan; it was built by Alvin M. Hart, who settled here in 1831. Here, also, is the Michigan State Home and Training School for the feeble-minded and epileptic; constructed in 1895, it is a cottage institution with large grounds and farm. In close vicinity to the city is a summer resort and a state wildlife sanctuary. The flints found along the banks of the river probably suggested the name for the city, which is a corruption of La Pierre, French for stone. Lapeer was incorporated in 1868. Pop. (1940) 5,365; (1950) 6,116.

LAPHAM, läp'am, Increase Allen, American naturalist: b. Palmyra, N. Y., March 7, 1811; d. Oconomowoc, Wis., Sept. 14, 1875. Between 1825 and 1832 he was employed in the survey of the Erie Canal, the Ohio Canal, and the Welland and Miami canals. In 1833 he went to Columbus, Ohio, to become secretary of the Ohio State Board of Canal Commissioners, and there he also turned his attention to botany, meteorology, and geology. Removing to Milwaukee, Wis., in 1836, he dealt in real estate and undertook a thorough study of the climate, topography, geology, fauna and flora, resources, and commerce of Wisconsin. From 1873 until his death he was state geologist of Wisconsin. His many publications, which numbered more than 100, represented an immense amount of research. Among the best known of these publications are his *Wisconsin: its Geography and Topography, History, Geology, and Mineralogy*

to carry heavy burdens, but travelers have been amazed at their brawn and endurance. The life of a herder demands a strong physique. Mentally the Lapps are very alert, but neuroses are common as a result of their being confined to cramped quarters during storms and severe weather. These neurotic spells are referred to as Lapp Panic.

Even though Christianity was accepted early by the Lapps, many pagan practices continued. Thomas von Westen (1682-1727), a Norwegian clergyman and missionary, did much to combat superstition, and so did the brothers Lars Levi Laestadius (1800-1861) and Petrus Laestadius (1802-1841), who made a tremendous religious impact on these people of the north. The Lapps are a literate people; the first school, Den Skytteanska Lapp Skolan in Lycksele, was founded in the year 1631.

The modern Lapps are only a fragment of a once numerous and powerful people. Among their achievements are the domestication of the reindeer, now a worldwide business, and the invention of skis. Their greatest contribution is in the field of art: Lappish designs have influenced Swedish art greatly. In the field of music their contribution has not yet been properly evaluated, but their skill and refinement astonish the collector.

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C. W. ANDERSON.

LAPLAND LONGSPUR. See LONGSPURS.

LAPOINTE, là-pwānt', **Ernest**, Canadian lawyer and politician: b. St. Eloi, Quebec, Canada, Oct. 6, 1876; d. Montreal, Nov. 26, 1941. Of French-Canadian parentage, he was educated at Rimouski College and Laval University, and called to the bar in 1898. From 1904 until his death, he sat continuously in the Canadian House of Commons and, after the death of Sir Wilfrid Laurier in 1919, was considered the chief spokesman of the French-Canadians. In 1922 he was Canadian delegate to the League of Nations in Geneva; in that year he negotiated and signed a treaty with France, and in the next year a treaty with the United States on Pacific fisheries, the first time a Canadian had been given full powers to act for the crown. Four other treaties with the United States bore his signature. With Premier William Lyon Mackenzie King, he represented the Dominion of Canada at the Imperial Conference of 1926. He was head of the Canadian delegation at the Imperial Conference of 1929, and a member of the delegation in 1937, when he was made a privy councillor.

When Mackenzie King became premier in 1921, Lapointe was appointed minister of marine and fisheries. Three years later he became minister of justice, serving until 1930 and again from 1935 until his death. He was also attorney general during the latter period, and often acted as deputy premier in Mackenzie King's absence. In 1939 he supported the entrance of Canada into the war, in spite of the opposition of a large proportion of his constituents, but opposed conscription.

LAPPARENT, là-pà-rān', **Albert Auguste Cochon de**, French engineer and geologist: b. Bourges, France, Dec. 30, 1839; d. Paris, May

5, 1908. After studying at the École polytechnique in Paris and at the École des mines, he was chosen a member of the staff to draw a geological map of France, and in 1874 was secretary of a committee which drew up plans for a submarine tunnel between France and England (never built). The next year he was appointed professor of geology and mineralogy at the Institut catholique in Paris and gave up his public appointments. He was distinguished for the remarkable simplicity of his scientific writings, which made popular and understandable textbooks. He published *Traité de géologie* (1882; 5th ed. 1906); *Cours de minéralogie* (1884; 3d ed. 1899); *La géologie en chemin de fer* (1888); *Leçons de géographie physique* (1896); *Le globe terrestre* (3 vols., 1899); *Science et apogée* (1905); *La philosophie minérale* (1910).

LAPPENBERG, läp'en-bërk, **Johann Martin**, German historian: b. Hamburg, Germany, July 30, 1794; d. there, Nov. 28, 1865. After graduating from the University of Edinburgh and studying for some time in London, Berlin, and Göttingen, Lappenberg was elected in 1820 to the post of resident minister from Hamburg to the Prussian court at Berlin. From 1823 to 1863, he was keeper of the Hamburg archives, and devoted his life to research and writing on English and German history. In 1850 he represented Hamburg in the German Parliament at Frankfurt. His *Geschichte von England* (2 vols., 1834-1837) was continued by various historians. Parts of it were translated into English as *History of England under the Anglo-Saxon Kings* (1845; new ed., 1884) and *History of England under the Norman Kings* (1857). He published many books on the history of Hamburg, among them *Hamburger Rechtsaltertümer* (1845); *Urkundliche Geschichte des Hansischen Stahlhofes zu London* (1851), which is a study of commerce between Great Britain and Germany; and *Hamburgische Chroniken* (1852-1861). He also contributed articles on the Middle Ages to the *Monumenta Germaniae Historica*.

LAPRADE, là-prād', (**Pierre Marin**) **Victor (Richard) de**, French poet and critic: b. Montbrison, France, Jan. 13, 1812; d. Lyon, Dec. 13, 1883. His early verse appeared in four volumes: *Les parfums de la Madeleine* (1839); *La colire de Jésus* (1840); *Psyché* (1841); and *Odes et Poèmes* (1844). While professor of literature at Lyon (1847-1861), he was elected to the French Academy in 1858, the year in which his *Idylles héroïques* was published. Turning to political satire, he wrote *Les Muses d'État*, which cost him his professorship. In 1871 he was elected to the National Assembly, where he sat with the right center. His later publications included *Poèmes civiques* (1874), and *Le livre des adieux* (1878). His collected poems were published in six volumes (1878-1881). His prose writings included *Questions d'art et de morale* (1861); *Le sentiment de la nature avant le christianisme* (1866); *Le sentiment de la nature chez les modernes* (1868); and *Contre la musique* (1880).

LAPRADELLE, là-prà-dèl', **Albert de Geouffre de**, French international jurist: b. Tulle, France, 1871; d. Feb. 2, 1955. Professor of international law at Grenoble, and then at Paris from 1905 to 1939, he was founder and editor of the *Revue de Droit International* and *La Vie des*

Peuples. Among his publications are: *Causes célèbres du droit des gens*, 5 vols. (1929-1937); *Les grands cas de la jurisprudence internationale* (1937-1938); *Le Marxisme tentaculaire* (1942); and *La paix moderne 1899-1945* (1947), a history of the peace movement to the United Nations.

LAPRAIRIE, là-prâr'î, town, Quebec, Canada, capital of Laprairie County on the southern shore of the St. Lawrence River, near the east end of the Lachine Rapids, opposite Montreal. The local industries in a truck gardening district are brick making and fruit canning and freezing. The town is served by the Canadian National Railways.

At its settlement in 1673 as La Prairie de la Madeleine (Magdalen's Meadow) it was fortified by Frontenac. During King William's War (1689-1697) it was twice raided by New York and New England troops. In the late summer of 1690 Capt. John Schuyler with 29 white volunteers and 120 Indians killed and captured 25 inhabitants and destroyed much property. A year later his brother, Maj. Peter Schuyler, mayor of Albany, attacked the town with a force of 266, including 120 whites, the rest Mohawks and Mohegans. Retreating to his canoes on the Richelieu he suffered severe losses in battle.

Canada's first train steamed from Laprairie to St. John's on the Richelieu (15 miles) in 1836. Incorporated 1909. Pop. (1951) 4,058.

LAPSE, legal term with several definitions. In the law of wills lapse is where a beneficiary under the will dies before the testator and the legacy is lost, or fallen and automatically becomes a part of the residuum of the testator's estate, unless provision is made in the will to prevent such lapse. In several States the law provides against total lapses in certain cases, as in the instance of children or grandchildren surviving the legatee, in which case the bequest would go to the heirs by direct descent. There is a distinction between "void" and "lapse," a bequest becoming void when the legatee is dead at the time of the making of the will.

In ecclesiastical law a benefice is adjudged to have lapsed when the patron fails within six months after the avoidance of the benefice to exercise his right of presentment. In such case the rights of patronage devolve upon the bishop as ordinary patron, the metropolitan as superior patron, and the sovereign as patron paramount of all the benefices in the realm.

In English criminal procedure "lapse" is used in the sense of "abate," to indicate that the death of one of the parties involved brought the proceedings to a conclusion.

LAPSED, term applied in the early days of Christianity to those converts who fell away from faith in times of persecution, returning to heathen practices such as idol worship, burning incense or sacrificing to the heathen gods. Excommunication was the punishment accorded such as denied the faith or reverted to heathen practices, and there was vigorous opposition to their being restored to the Church. However, on profession of penitence they were permitted to hope for reinstatement in the Church, but were compelled to pass a long probation and perform special penances, and most often were admitted to communion only at the time of death.

LAPUTA, island described in Swift's 'Gulliver's Travels' as floating in the air guided by a loadstone under the control of the inhabitants. It was peopled by a race of philosophers devoted to mathematics and music, and who let their land run to waste and their people live in penury while they devoted themselves to visionary schemes such as softening marble "for pillows and pin-cushions," extracting "sunbeams from cucumbers" for use in raw weather, and similar absurdities, directed as satire against Sir Isaac Newton and the Royal Society. The philosophers were attended by "flappers" whose duty it was to awaken them from their deep introspection when addressed. Laputa in many respects resembles the "lantern-land" in Rabelais' 'Pantagruel,' Swift being generally believed to have imitated that work.

LAPWING, a plover (*Vanellus vanellus* or *cristatus*), found throughout temperate Europe and Asia, across the whole breadth of which it breeds. It has a hind toe and in this respect departs from the true plovers. In the summer a few are found as far north as Norway, Iceland and Greenland, and in winter they migrate for the most part to Africa and India. In its habits the lapwing much resembles the American killdeer; and, like that bird, it is hated by gunners on account of its alarm-cries. This pursuit and the market demand for its flesh, and more especially for its eggs, greatly reduced its numbers, especially in Great Britain, where it is again on the increase due to its recent protection by law. The lapwing is noteworthy for the long flowing crest on the head, the contrasting white and deep iridescent green of its plumage, and for its peculiar jerking, yet rapid flight. In the breeding season it is always seen in pairs, but in the winter months great flocks are visible on the seashore and on the borders of marshes. Consult Newton, 'Dictionary of Birds' (London 1896), and 'The Lapwing, Green Plover, or Peewit' (in 'Agriculture and Fisheries Board of Great Britain, Leaflet No. 44' 9th ed., ib. 1905).

LAPWORTH, Charles, English scientist: b. Faringdon, Berkshire, 1842; d. 1920. He was trained as a schoolmaster at Culham College, and was master of a school at Galashiels 11 years. All of his leisure time was devoted to geology, and in 1881 he was appointed professor of geology and physiography at Birmingham University, holding the chair until 1913. He did notable work in his geological investigations, especially in the Durness-Eriboll district of Scotland, which he began in 1882, and during the course of which he established his theory of "rock-fold" and interpreted the complicated strata which had baffled previous observers. Among his works are 'The Geological Distribution of the Rhabdophora' (1880); 'Intermediate Text-Book of Geology' (1899); 'British Graptolites' (1900-08), etc.

LARAMIE, Wyo., city and Albany County seat, alt. 7,159 feet, on the Laramie River, and the Union Pacific and the Laramie, North Park and Western railroads, 58m. W. of Cheyenne, the capital. It has an airport. Laramie is a summer resort, as well as the trading and distributing center for a large stockraising and mining section. Aside from the mining of gold,

silver, coal, iron, and petroleum in nearby deposits, and the milling of these and other minerals, Laramie engages in the manufacture of railroad ties, cement, and allied products. It also has oil refineries and stockyards. There is a state stock farm, a state agricultural experimental station, and a United States oil shale experimental station. The city is under the council-manager form of municipal government. It has a public library and a university library which houses a Western historical collection. Laramie is the seat of the University of Wyoming, a coeducational institution founded in 1886, and the city's cultural life centers largely upon it. Other points of interest include a paleontological museum in the university science hall and a museum of pioneer relics in the Albany County Court House. Laramie was first settled in 1868 by employees of the Union Pacific Railroad. The site was on the old Overland Trail and Pony Express route. It was named for Jacques Laramie, pioneer fur trapper and trader, as were the Laramie Mountains, Plains and River. It was in Laramie that Bill Nye, noted humorist and editor of *The Boomerang*, established his "den of 40 liars." Pop. (1940) 10,627; (1950) 15,497.

LARAMIE, river, Colorado, rising in northern Colorado and flowing north into Wyoming where it turns northeast and empties into the North Platte River. It is about 200 miles long.

LARAMIE MOUNTAINS, a Rocky Mountain range which extends through southeastern Wyoming and northern Colorado, and bounds the Laramie Plains on the east. The highest point is Laramie Peak, 9,020 feet high. Coal is the principal mineral, and is found in the foothills of the range and there are vast deposits of iron ore.

LARAMIE STAGE or **GROUP**, geological formation of western North America consisting of several thousand feet of nonmarine sediments. There has been considerable controversy as to the true geological age of the strata, and it is now assumed to belong to the Cretaceous period—the latest period of the Mesozoic era—and not to the early periods of the Cenozoic era as was formerly believed. The beds are characterized by many Upper Cretaceous land plants and Cretaceous dinosaur fossils but no marine sediments are present. The Laramie group varies in depth from very thick deposits in Colorado, Wyoming, and the Great Plains region of Alberta to thinner deposits eastward toward the Dakotas.

LARAT, island, Republic of Indonesia, one of the Tanimbar Islands, in the Malay Archipelago. It is 20 miles long and seven miles wide. Pop. (1940) 3,703.

LARBAUD, lâr-bô', Valéry, French author: b. Vichy, Aug. 29, 1881. He is best known for his *A. O. Barnabooth, Poésies et Journal Intime* (1913), a novel concerning the vain efforts of a South American millionaire to assimilate the pleasures of European society.

His other works include *Fermina Marquez* (1911); *Enfantine* (1918); *Jaune, Bleu, Blanc* (1927); and *Domaine Anglais* (1937).

LARBOARD, left side of a ship looking toward the bow, a term probably derived from

its usually being the lading or loading side. The word is now obsolete, its similarity to its opposite "starboard" having caused it to be superseded by the word "port."

LARCENY, the fraudulent appropriation of the personal property of another person without that person's consent and with intent to deprive him of permanent possession of his property. To constitute this crime the removal of the goods to any distance is not necessary, but it requires to be shown that the article has completely passed, for however short a time, into possession of the criminal. Concerning the kinds of things the appropriation of which is larceny, the common law restricted them to personal property as distinguished from real estate, but this distinction has been largely abolished by recent statutes. At one time in Great Britain the punishment for grand larceny was death but now the punishment for larceny is imprisonment, the same as in the United States, and depends on the previous character of the prisoner. The common law rules on larceny have been greatly modified by statute and the conversion of goods to one's own use with felonious intent, as in the embezzlement of funds which have been confided to one, is now defined and punished as larceny. The obtaining of property under false pretenses is another offense which has been consolidated with larceny in some state jurisdictions.

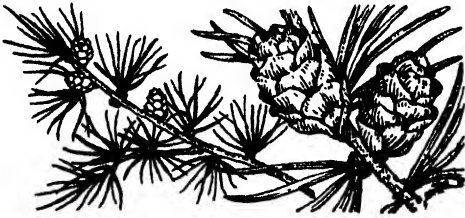
As indicated above there are two forms of common law larceny—by asportation involving the trespass and carrying away of another person's personal property, and by trick or device which occurs when a person obtains possession of personal property fraudulently with intent to secure the property for himself.

Although the distinction between grand and petit, or petty larceny still exists as it pertains to the penalty, the jurisdiction of the courts, and so forth, the distinguishing features vary considerably from state to state. In New York State, for example, grand larceny in the first degree is defined as such and in general it involves a theft of \$500 or more with a maximum penalty of 10 years' imprisonment. Grand larceny in the second degree generally involves the theft of \$50 or more with a maximum of 5 years. Petit larceny is a misdemeanor involving lesser amounts with a maximum of one year. In the State of Michigan there are no such statutory distinctions, although the penalty is determined along similar lines. Each state jurisdiction must be consulted. See **THEFT**.

LARCH, river, northern Quebec, Canada. It flows northeast to join the Kaniapiskau River, forming the Koksoak River. With its longest headstream it is about 300 miles long.

LARCH, a genus (*Larix*) of deciduous conifers characterized by pyramidal growth; small linear leaves arranged in clusters upon the older branches, singly and spirally upon the young twigs; often conspicuous pistillate flowers which develop small, erect, globose or oblong cones, the attenuate scales of which are not deciduous at maturity. The species, of which there are about a dozen, are natives of the colder parts of the Northern Hemisphere. The best-known one in North America is the American larch, hackmatack or tamarack (*L. laricina*), which grows generally in wet, peaty soils and shallow swamps, or occa-

sionally upon drier upland soils, from Hudson Bay to Pennsylvania, and westward to Manitoba and Illinois. It attains a height of 60 or more feet, and has nearly horizontal branches. Its wood is hard and very durable, but light in proportion to its size. Being very straight and slowly tapering, the trunks are much used for telegraph poles, scaffold supports, fence posts, railway ties and in shipbuilding. It is less planted for ornamental purposes than the following species because its branches are less pendulous and less leafy.



American larch: twig and fruit (cones).

The European larch (*L. decidua*) grows usually upon dry uplands and a wide range of soils, but rarely in moist ground. Its range is from the mountains of southern Europe to the far north, where it is among the few hardy trees. In height it often reaches 100 feet, and because it is of rapid growth, it is used for an even larger number of purposes than the preceding. It is often planted for commercial purposes, for windbreaks, and for ornament. The timber which is rich in resin and is practically exempt from insect attacks is valuable for wet locations. It is little used for planks because it warps badly. Since it does not ignite readily and does not splinter it was formerly used in wooden battleships. Its bark, which contains tannin, is somewhat used in preparing leather; its stem yields Orenburgh gum resembling gum arabic; and its leaves in warm climates exude Brançon manna, a sweetish, turpentine-flavored manna (q.v.).

Of the other species, one of the most beautiful and ornamental is *L. leptolepis*, a native of Japan. It grows 70 to 80 feet tall, and its foliage is brilliantly colored in autumn. The timber of the light close-grained western larch, *L. occidentalis*, a native of the Pacific Coast region from Oregon northward, is considered the best yielded by coniferous trees. The tree is the largest of the genus, often reaching a height of 150 feet.

The golden larch, *Pseudolarix amabilis*, also deciduous, with larger cones which fall apart at maturity is an even more beautiful tree by reason of its more feathery appearance and light yellow-green leaves which turn bright golden-yellow in autumn.

The only insect seriously harmful to the larch is a sawfly (*Pristiphora erichsoni*), whose young hatch in early summer from eggs previously inserted into the young shoots, and immediately begin feeding upon the leaves. This pest is occasionally sufficiently numerous to defoliate large tracts of forest.

LARCH SAWFLY, insect pest (*Pristiphora erichsoni*), whose whitish larvae feed upon the foliage of larch trees. The pest exists in Canada, United States and England and is very destructive, entire forests being defoliated.

LARCHMONT, village, N. Y., located in

Westchester County; at an altitude of 100 feet on Long Island Sound; about 20 miles northeast of New York City; on the New York, New Haven, and Hartford Railroad. A residential suburb, with no industries, it is the home of the well-known Larchmont Yacht Club. It is governed by a mayor and council. Larchmont was founded in 1661 and incorporated as a village in 1891. Pop. (1940) 5,970; (1950) 6,293.

LARCOM, Lucy, American author and educator: b. Beverly, Mass., Mar. 5, 1824; d. Boston, April 17, 1893. As a young girl she was a mill-worker in Lowell, Mass. (1835-1846), and about 1840 she began contributing to the *Operative's Magazine* which merged with the *Lowell Offering* two years later. Her contributions attracted the attention of John Greenleaf Whittier whom she later assisted with the preparation of his verse anthologies entitled *Child Life* (1871) and *Songs of Three Centuries* (1883). In 1846 she went to Illinois to teach school in pioneer communities and at Monticello Seminary near Alton, Ill., where she also studied (1849-1852). She spent eight years, from 1854 to 1862, as a teacher at Wheaton Seminary (later Wheaton College) in Norton, Mass. In 1865 she became an editor of *Our Young Folks*, a Boston magazine later merged with *Saint Nicholas*. Her last years were spent in Beverly and Boston. Miss Larcom's most effective writing was achieved in her poems of New England life, perhaps the best known being *Hannah Binding Shoes*. Among her works are *Poems* (1869); the autobiographical *A New England Girlhood* (1889); and *The Unseen Friend* (1892). In the last, published a year before her death, she gave the final expression of her religious faith.

LARD, the melted and strained fat of hogs. The finer grades of commercial lard are taken from the abdominal part of the animal, "leaf lard," taken from the fat surrounding the kidneys, being considered the best. Lard is rather soft and white and melts readily at 35°-45°C. It consists of stearin, the solid residue, olein, a liquid fat or lard oil removed by pressure, and palmitin. Stearin is used to stiffen soft lards and those shipped to warm climates. Olein is used for burning and as a lubricant. Lard itself is used in the production of margarine and as a base for ointments. Great quantities are produced in the United States, especially in the Chicago area, and much of it is exported. See also **FATS**; **MEAT**—*Meats and Meat Production*.

LARDNER, lărd'nēr, Dionysius, Irish physicist, mathematician, and writer on science: b. Dublin, April 3, 1793; d. Naples, April 29, 1859. He received his M.A. from the University of Dublin in 1819 and became professor of astronomy and physics at the University of London in 1828. He wrote two notable mathematical treatises entitled *A Treatise on Algebraical Geometry* (1823) and *On the Differential and Integral Calculus* (1825). He is best known for his *Cabinet Cyclopaedia*, a 134-volume reference work which he edited from 1829 to 1844. He himself wrote articles on hydrostatics, pneumatics, and mathematics for the *Cyclopaedia*. Because of a scandal in 1840 he lost his chair at the University of London and began a self-imposed exile which lasted until his death in Naples almost 20 years later. His other work includes *Treatise on Heat* (1844); *The*

Steam Engine (1852); *Natural Philosophy and Astronomy* (1851-1852).

LARDNER, Ring, in full RINGGOLD WILMER LARDNER, American author: b. Niles, Mich., March 6, 1885; d. East Hampton, N. Y., Sept. 25, 1933. He was graduated from high school in Niles and briefly attended Armour Institute of Technology in Chicago, Ill. After working at varied occupations, in 1905 he became a reporter on the South Bend (Ind.) *Times*. Moving to Chicago, he spent nearly 15 years as writer for several local newspapers, including the *Inter-Ocean*, *Examiner*, and *Tribune*, and for a short time was editor of *Sporting News*, a baseball weekly, in St. Louis, Mo. His special field was sports, and he traveled around the country for many years as feature writer for professional baseball. In 1914 he began writing short stories about baseball players, printed in *The Saturday Evening Post*, and later collected under the title *You Know Me, Al* (1915). In 1917 he published some further satires about the newly rich, as *Gullible's Travels*. During the next 10 years he wrote several series of short pieces: *Own Your Own Home* (1917); *Treat 'Em Rough* (1918); *The Real Dope* (1918); *My Four Weeks in France* (1918); *The Young Immigrants* (1919); *How to Write Short Stories* (1924); *What of It?* (1925); and *The Love Nest* (1926). In 1927 he published an autobiography, *The Story of a Wonder Man*. He was also co-author of two very successful plays: *Elmer the Great* (with George M. Cohan, 1928) and *June Moon* (with George S. Kaufman, 1929).

While Lardner is thought of primarily as one of the major American humorists, critics have pointed out that his satire is caustic, picturing a great many people as unhappy, shabby exhibitionists. His stories are read, however, for the shining humor and the excellent character delineation of the lower middle class. Among his most familiar stories are *Haircut*, *Champion*, *The Love Nest*, *Golden Honeymoon*, and *Some Like Them Cold*. Although they may be found in innumerable anthologies, a useful collection is *The Portable Ring Lardner* (New York 1946).

LAREDO, là-rā'dō, city, Texas, port of entry, and Webb County seat; altitude 438 feet; on the Rio Grande, opposite Nuevo Laredo in Mexico; 161 miles west of Corpus Christi, and 154 miles southwest of San Antonio; on the Missouri Pacific, and Texas Mexican railroads, connecting at Nuevo Laredo with the National Railways of Mexico. The city is a terminal of the Pan American Highway, and has an airport with international and transcontinental service. International Bridge to Nuevo Laredo is south of the city, and over it pass thousands of tourists each year. Onions and grapefruit are important crops of the adjacent irrigated farm lands. Cannel coal, natural gas, and petroleum are produced here. The city has large railroad shops, oil refineries, antimony smelter, and manufactures of harvest hats, tile, brooms, and clothing. The chief port on the Mexican border, Laredo clears an export trade of over \$100,000,000 annually for the Republic of Mexico, and 54 per cent of the entire overland imports and exports between the United States and Mexico pass through the city. Laredo was established in 1755 by Spanish settlers, one of the first Texas towns not founded as a mission or presidio.

During the Mexican War it was occupied by Texas Rangers in 1846, and by the forces of Gen. Mirabeau Lamar (q.v.) in 1847. On July 13, 1847, the first free election in the town under the laws of Texas was held by proclamation of General Lamar. In 1849 Camp Crawford, now Fort McIntosh, was built by the United States government at a ford of the Rio Grande used by smugglers. During the Civil War the fort was held by Confederate troops. The city was chartered in 1852. Government is by a mayor and a council. Pop. (1940) 39,274; (1950) 51,910.

LARES, Amador de, the contador or royal treasurer of the island of Cuba at the time when Diego de Velázquez was governor, that is, in the first quarter of the 16th century. He is remembered for the aid he gave Hernando Cortés in securing and retaining the command of the expedition fitted out for the conquest of Mexico in 1518-1519.

LARES, là-rêz, plural of the Latin word *lar*, tutelary divinities of the Romans, originally either the spirits of ancestors who watched over the family of a descendant, or, according to a perhaps more probable view, gods of the lands on which the man's house stood, and later household gods. See also **LARS**.

LARGILLIERE, làr-zhê-lyâr, or **LARGILLIERRE, Nicolas de**, French portrait painter: b. Paris, Oct. 20, 1656; d. there, March 20, 1746. He studied at Antwerp under Antoine Goubeau and at 18 went to England where for four years he worked under Sir Peter Lely. His work attracted the favor of Charles II, but alarmed by the feeling against Catholics engendered by the Rye House Plot (q.v.) he went to Paris to live in 1678. There he made the acquaintance of the artists Charles Le Brun and Antoine-Francois Van der Meulen, and soon became known as a portrait painter. He returned to London at the invitation of James II and painted portraits of the king and queen and members of the court. After his return to Paris he became a member of the Academy, in 1686 his diploma picture being the portrait of Le Brun now in the Louvre. He was made chancellor of the Academy in 1743.

His sitters included some of the greatest celebrities of his day, Pierre-Daniel Huet, bishop of Avranches, Cardinal Louis-Antoine de Noailles, Lambert de Thorigny being among them. While he occasionally painted other subjects, his fame rests upon his portraits, including those of single sitters and large groups. His work is represented in the leading European galleries, and was widely known through the engravings of Louis Desplaces, Pierre Drevet, Gerard Edelinck, and others. His portrait of Mme. de Thorigny is in the Metropolitan Museum of Art in New York City.

LARGO, làr'gō, musical term from the Italian designating a slow tempo, largely used to indicate a slow, broad, solemn style. George Frederick Handel often employs it, as in the *Messiah* and *Behold the Lamb of God*. Franz Joseph Haydn used it in the introduction, the first chorus and in the introduction to the third part of the *Creation*. Beethoven used it to convey only grandeur and deepest feeling. Style, not pace, is its dominating characteristic. The term "largamento" indicates breadth of style without change of tempo.

LARGS, lărgz, seaport burgh, Scotland, in Ayr County, on the Firth of Clyde, 29 miles west-southwest of Glasgow on the national railroad. It has yachting facilities. The mausoleum, Skelmorlie Aisle (1636), is a relic of the old parish church. The Battle of Largs was fought between Haakon IV Haakanson of Norway and Alexander III of Scotland in 1263. Pop. (1951) 8,606.

LARI, lă'ri, a suborder of birds of the order Charadriiformes. It comprises the gulls and terns (Laridae), skimmers (Rynchopidae), and skuas and jaegers (Stercorariidae). They are birds of buoyant, graceful flight, and have long, pointed wings. Their numbers include birds adapted to every part of the globe where there is open water.

LARIAT. See LASSO.

LARIDAE. See LARI; GULLS; TERN.

LA RIEGE, France. See ARIEGE.

LARIIDAE, lă-rî'i-dē, a family of seed-infesting beetles also designated as Bruchidae and Mylabridae. They are small, robust, short-bodied insects, and are erroneously referred to as weevils, which they resemble somewhat in having the head produced to resemble a snout. The body is clothed with small scalelike hairs. The elytra are short, exposing a part of the abdomen. The very small eggs are glued on the pods or seeds or within the burrows of the larvae and adults. The larvae undergo a hypermetamorphosis in which the first stage upon hatching has well-developed legs; they are able to move freely, and are capable of eating their way into both immature and hard, fully developed beans, peas, and seeds of other legumes. The life histories are often complex, there being one or many broods. The common pea weevil is a good example. The eggs are deposited on the outsides of the green developing pods, and each larva, upon hatching, burrows through the pods and enters a single green pea. In contrast, the many species of bean and other weevils not only infest the ripening seeds in the field but also continue to breed and feed in them generation after generation in storage until nothing but chaff remains. The complete life cycle of these beetles is from 20 to 80 days.

EDWARD O. ESSIG.

LARIOSAUROS, lăr-ē-ō-sô'rūs, a genus of fossil reptiles, of the family Nothosauridae, allied to the plesiosaurs. They were lizardlike in shape, rarely a yard long, and had heads of moderate size with many prehensile teeth. Nearly complete skeletons have been obtained from the black Triassic shales near Lake Como.

LARISSA, lă-ris'ă, city, Greece, capital of the department of the same name in Thessaly, on the Salambria River, 35 miles northwest of Volos, with which it connects by railway. Located in a rich agricultural district, it is the seat of a Greek archbishopric and has various industries. For centuries under Turkish rule, it was restored to Greece by the annexation of Thessaly in 1881. It was headquarters of army mobilization in the Balkan Wars of 1912-1913, and saw severe fighting between Greek and British forces against German. Pop. (1951) 41,163.

LARIVEY, lă-rē-vă', Pierre de (originally surnamed GIUNTA), French dramatist: b. Champagne about 1540; d. Troyes, France, Feb. 12, 1619. Son of a Florentine merchant, he became a canon of the Church of St. Etienne at Troyes. His first six plays (*le Laquais, la Veuve, les Esprits, le Morfondu, les Jaloux, les Ecoliers*), published in 1579, were adaptations of Italian comedies, which, though changing locales and names of characters, retained the type characters of the *Commedia dell'arte*. The last three (*la Constance, le Fidèle, les Tromperies*) were published in 1611. Larivey's plays were in prose, a novelty in that period. Although never performed, they influenced J. F. Regnard and Molière. Larivey also translated works of Giovanni Straparola and Guido Aretino.

LARK, a songbird of the family Alaudidae, numbering some 75 species, all but one of which are confined to the Old World. The horned lark (*Eremophila alpestris*) reached America from Asia and is now widespread. All larks frequent open fields, prairies, or deserts. The long-billed lark (*Alaemon*) inhabits barren deserts in India where there is not a blade of grass to protect it from the tropical sun. Most larks sing while hovering high above the ground on quivering wings. The most famous of such ecstatic songsters is, of course, the skylark (*Alauda arvensis*) of Europe. Efforts to introduce this bird into America failed, but it is established in Hawaii and New Zealand. Larks build a cuplike nest; the eggs are spotted. They can run rapidly. The toes and claws are very long, presumably to give them added traction when traversing snow or loose sand. Larks have a rather stout bill, adapted for eating seeds and other vegetable matter. Many insects are also devoured during the summer. Most larks are protectively colored to match the soil or grass, for they must rely upon protective coloration, as a rule, to evade enemies. Larks living upon deserts with reddish sands are reddish in color; those living on black soils are blackish, and so forth. Among the few that are not protectively colored is the large black lark (*Melanocorypha yeltoniensis*) of the steppes of central Asia. The curious little sparrow larks of Africa and India (*Eremopterix*) have a very thick bill and are prominently marked on the head and underparts with black. They look not unlike the male of the house sparrow (*Passer domesticus*). Despite their small size larks are considered a table delicacy in southern Europe. They are captured in nets during migration and sold in the markets of the cities.

DEAN AMADON.

LARK BUNTING (*Calamospiza melanocorys*), a bird of the finch tribe inhabiting the plains of central North America. The male is black with conspicuous white patches on the wings; the female is streaked with brown and gray. In winter the male, too, molts into an inconspicuous plumage. Like the lark and other birds of grassy plains, where there are no elevated singing perches, this finch has learned to sing while fluttering in the air—hence the name "lark" bunting.

LARK SPARROW (*Chondestes grammacus*), one of the larger and more attractive of the American sparrows. It frequents areas of grass and scattered bushes. The food is seeds and

insects, especially grasshoppers. The lark sparrow has a boldly streaked head and a rounded, white-tipped tail. The melodious song is like a series of chants.

LARKIN, James, Irish labor leader; b. Manchester, England, 1877?; d. Dublin, Jan. 30, 1947. He organized the Irish Transport and General Workers' Union. He was prominent in several strikes, notably that of the Irish Transport Workers' Union, which was attended by violence and sabotage. Larkin was sentenced to seven months' imprisonment for sedition but was released on bail. He edited the *Irish Worker* and came to the United States in 1914 to raise funds for the Irish fight against Britain. One of the founders of the Communist Party in the United States, he was imprisoned there for criminal anarchy, later pardoned, and deported to Ireland in 1923. He organized the Irish Workers' Union, served on the Dublin Municipal Council and, following 1937, in the Dail Eireann.

LARKSPURS, a genus (*Delphinium*) of annual and perennial herbs of the family Ranunculaceae, characterized by palmately lobed or divided leaves and showy racemes or panicles of large irregular flowers. Many of the species, of which there are over 250 in the north temperate zone, are cultivated for ornament. Many improved varieties and hybrids have been developed, some double-flowered. In horticultural practice the annual species are called larkspurs, the perennial ones delphiniums. The most popular annual species is *D. ajacis* which grows one to four feet tall and bears showy blue, pink, violet, or white flowers throughout the summer. Of the perennial species *D. cheilanthum*, *D. elatum* and *D. grandiflorum* are most popular in America and have yielded the largest number of horticultural varieties.

They are all native to Asia. They blossom during midsummer and are noted for their beautiful tints of blue, their hardiness and ease of cultivation. If cut down immediately after flowering they often blossom a second time before frost. Among the best-known American species are *D. Mensiesii*, *D. scopulorum* and *D. nudicaule*, which range from the Pacific Coast to the plains region. *D. tricornis* and *D. carolinianum* are found most commonly east of the Mississippi. The larkspurs thrive best in rich, deep sandy loam, well exposed to the sun. The annuals are propagated by seed, as are many of the perennials which are also increased by root division in autumn or early spring or from second growth in summer. Seeds are usually sown in autumn out of doors or early winter in a greenhouse.

LARKSVILLE, borough, Pennsylvania, in Luzerne County; altitude 940 feet; on the Susquehanna River; 3 miles northwest of Wilkes-Barre. It is a coal-mining center; named for Peggy Lark, centenarian, who once owned the site. Pop. (1930) 9,322; (1940) 8,467; (1950) 6,276.

LARMINIE, William, Irish poet: b. County Mayo, 1849; d. Bray, Jan. 19, 1900. He spent most of his life in the civil service, ill-health compelling his retirement a few years before his death. He was identified with the Irish Literary Revival and was strongly influenced by the Gaelic legends. His dramatic poem *Moytura* ranks among his best

work. He was author of *Glauha and Other Poems* (1889); *Fand and Other Poems* (1892) and published a collection of *West Irish Folk Tales* (1893). A selection of his verse is given in S. Brooke and T. W. Rolleston's *Treasury of Irish Verse*, accompanied by an appreciation by George Russell (A. E.).

LARMOR, Sir Joseph, British physicist: b. Magherall, County Antrim, Ireland, July 11, 1857; d. Holywood, County Down, May 19, 1942. He was educated at Queen's College, Belfast, and Saint John's College, Cambridge. He was professor of natural philosophy at Queen's College, Galway, and at the Queen's University in Ireland in 1880-1885; examiner in mathematics and natural philosophy in the University of London, and lecturer in mathematics at Cambridge University in 1885-1903. He was knighted in 1909 and after 1911 served as member of Parliament from Cambridge University. He was a member and officer of many scientific societies, and in 1915 received the Royal Society's Royal Medal. He published numerous articles on mathematics and physics, and was author of *Aether and Matter* (1900).

LARNACA, or **LARNAKA**, or **LAR-INCA**, city, Cyprus, at the head of a bay on the south coast, 23 miles southeast from Nicosia. It is the chief seaport of the island and is built on the site of the ancient Citium. It has Phoenician inscriptions, Mycenaean tombs and other antiquities, but the ancient citadel was leveled in 1879. The Greek church of St. Lazarus is an ancient Byzantine structure still well preserved. A Phoenician town before it fell to the Greeks, Citium is identified by some scholars with the Old Testament Chittim. A cuneiform inscription found here indicates that its king was a tributary of the Assyrian King Sargon in 709 B.C. An annual fair at Larnaca called *kataklysmos* (the Deluge) traditionally commemorates the birth of Aphrodite. Exports include grain, fruit, raisins, gypsum, umber, asbestos and cotton. Pop. (1946) 14,746.

LARNE, seaport, Ireland, a city of County Antrim, on Lough Lorne, an inlet of the North Channel, 26 miles north of Belfast, on the Belfast and Northern Counties Railroad. Larne's situation, 30 miles from the Scottish coast, makes it a base of the shortest passage from Ireland to Great Britain, and there is a daily mail service. It is a market town and seaside resort, ships iron ore, and there are a bleaching establishment, flour mills and a weaving factory. Pop. 11,090.

LARNED, Josephus Nelson, American author and librarian: b. Chatham, Ontario, Canada, May 11, 1836; d. Buffalo, N. Y., Aug. 15, 1913. He was a member of the editorial staff of the *Buffalo Express* 1859-1869, and editor, 1869-1872; he was then superintendent of public education in Buffalo for a year, and in 1877 became librarian of the Buffalo Library, a position which he held for 20 years. He was president of the American Library Association in 1893-1894. He edited and published (1902) *The Literature of American History*, a bibliography, in which the "scope and comparative worth" of each book is indicated in short annotations by historical students. His other works include *Talks about Labor* (1877); *History for Ready Reference* (7

vols., 1895-1910; including 5 vols., 1894-1895, and two supplements, 1901 and 1910), an historical dictionary consisting mainly of quotations from leading authorities, which was revised and reissued as *The New Larned History* (12 vols., 1922-1924); *Seventy Centuries: a Survey* (1905); and *Books, Culture and Character* (1906).

LARNED, lăr'nĕd, city, Kansas; seat of Pawnee County; altitude 2,025 feet. It is situated at the junction of the Pawnee and Arkansas rivers, 63 miles west of Hutchinson, and is served by the Missouri Pacific and the Atchison, Topeka and Santa Fe railroads. It is the shipping center of a grain, stock, and dairy farming area, growing wheat, alfalfa and sugar beets. It has flour mills and cheese factories, and ships sandstone. The city is on the old Santa Fe Trail, and near by is the site of old Fort Larned, established in 1859 to protect travelers from Indian attacks, but abandoned in 1878. Pawnee Rock, scene of many battles between Indians and white men, is near Larned. The city was settled in 1872 and incorporated in 1886. Pop. (1950) 4,447.

LAROMIGUIERE, là-rô-mĕ-gyâr', Pierre, French philosopher: b. Livignac, Aveyron, Nov. 3, 1756; d. Paris, Aug. 12, 1837. He studied under Étienne Bonnot de Condillac, and became professor of philosophy at Toulouse, but being censured by its Parliament for his publication of a treatise on taxation, he went to Paris, where he was favorably received. He was appointed professor of logic in the École Normale and lecturer at the Prytanée, and in 1811 professor of the faculty of letters in the University of Paris. He was a member of the Tribunate in 1799. In 1833 he was elected a member of the Academy of Moral and Political Sciences.

Laromiguière's theories as a philosopher led him to distinguish clearly between the psychologic phenomena which may be traced to physical causes and the action of the soul itself, and he developed the theory of attention beyond even his master, Condillac, and others who influenced his views, A. L. C. Destutt de Tracy and P. J. G. Cabanis among them. He maintained that the soul is free in its choice and therefore immortal. While not distinctively an originator, but rather a developer of philosophic theory, he possessed a faculty for clear and accurate statement so that his work crystallizes not only the results of his own observations but those of others who influenced his thought. He was the author of *Projet d'éléments de métaphysique* (1793); *Sur les paradoxes de Condillac* (1805); *Leçons de philosophie* (1815-1818).

LAROUSSE, là-rôôs', Pierre Athanase, French lexicographer and encyclopedist: b. Toucy, Yonne, Oct. 23, 1817; d. Paris, Jan. 3, 1875. He was the son of a village blacksmith, became a teacher, and for many years compiled textbooks for elementary schools. In 1859 he founded *L'école normale*, a periodical for teachers. In 1865 appeared the first volume of his great library of information, anticlerical in tone, *Grand Dictionnaire universel du XIX^e siècle*, a dictionary and encyclopedia combined. It was in 15 volumes and was completed in 1876 after his death; supplements in 1878 and 1884. A new edition, *Nouveau Larousse illustré*, under the supervision of Claude Augé, was published in 1897-1904; supplement in 1907. The *Larousse*

du XX^e siècle, under the supervision of Paul Augé, appeared in six volumes in 1928-1933. The original aim of Pierre Larousse was to be entertaining and bright in his articles, rather than scholarly, critical and exact. The succeeding versions of his work have been profusely illustrated, especially as regards the fine arts. Larousse's small *Dictionnaire de la langue française* (1856) was continued by Claude Augé as an encyclopedic dictionary in one volume, renamed the *Petit Larousse illustré* (1906) and the *Nouveau Petit Larousse illustré* (1924).

LARRA, lăr'ră, Luis Mariano de (surname in full, LARRA Y WETORET), Spanish writer: b. Madrid, Dec. 17, 1830; d. there, Feb. 20, 1901. He was the son of Mariano José de Larra. He entered the offices of the *Gaceta de Madrid* at the age of 17, and became editor (1856-1866). Larra filled many public offices and was decorated by several of the governments of Europe for brilliant literary work and advocacy of governmental and other reforms. He was for a number of years director of the *Boletín oficial* of the ministry of internal affairs.

Larra was the author of a vast quantity of verse, short stories, and critical articles. Among his formal published works are several novels; the plays *El amor y la moda*, *El amor y el interés*, *El rey del mundo*, *La oración de la tarde*, *Flores y perlas*, *Oros, copas, espadas y bastos*, *Las corazonas de oro*, *Un buen hombre*; and the zarzuelas (operettas) *Las hijas de Eva*, *La conquista de Madrid*, *Cadenas de oro*, *Los hijos de la costa*, *Sueños de oro*, *La vuelta al mundo*, *Chorizos y polacos*, and *El guerrillero*, among many others.

The work of Larra is generally interesting, and brilliant in spots; but he wrote too rapidly to produce much of the highest order. His dramas and zarzuelas have been long very popular in Spain and in the Latin American countries where they have been presented by the best companies. Among the composers who furnished the music for his zarzuelas are Francisco Barbieri, José Rogel, Pascual Arrieta y Corera, Manuel Fernández Caballero, Joaquín Gaztambide, and Pedro Miguel Marqués.

LARRA, Mariano José de (surname in full, LARRA Y SÁNCHEZ DE CASTRO; pseudonym FIGARO), Spanish writer: b. Madrid, March 24, 1809; d. there, Feb. 13, 1837. His father, a Spanish medical officer in the French Army, was exiled from 1813 to 1818, and the son was educated at Bordeaux; later at the universities of Madrid and Valladolid. At the age of 13 he had translated parts of the *Iliad* from French to Spanish and had written a grammar of the Spanish language. After abandoning several vocations, he finally drifted into journalism and literature, to which he brought a peculiarly French point of view in his satires.

Larra wrote under a number of *noms de plume*, one of which, "Figaro," he soon made famous. His first popularity was won in a weekly publication entitled *El pobrecito hablador*, in which he burlesqued very cleverly the abuses, habits, and customs of the Madrid of his day. On the arrival of a more liberal policy toward the press on the death of Ferdinand VII, in 1833, he began to take a very active part in politics in which he soon became a noted journalistic contender, satirizing with great cleverness the follies and absurdities of his time. Witty in the extreme, he

never descended to the bitterness of the political, party and personal vituperation of the writers of his day. All the world laughed with him and appreciated the truth of the pictures he painted and the humor of the situations, characters and incidents he depicted, in the best, most fluent and most happy of language which was in general devoid of partisanship and inspired with a spirit of fairness. This fairness of mind and broadness of view increased his popularity and extended the field of his readers. He also acquired a reputation as literary and dramatic critic inferior to that of no other contemporary writer in Spain. At the height of his fame he visited England, France and Portugal and everywhere he was received as a personage of the highest distinction (1835). The following year he visited Belgium and Germany, during which he was elected, in his absence, diputado to the Cortes.

Larra's family relations were unhappy, probably on account of his own lack of domestic qualities; and these were intensified by his relations for several years with a married woman with whom he appears to have been infatuated. Jealousy made his life miserable both at home and in his irregular marital relations, the latter of which becoming unbearable to the woman in the case, she turned her back on the poet; and Larra, in desperation, took his own life. So great was his popularity that "all Madrid turned out to his funeral." Among Larra's published works are 'El dogma de los hombres libres' (translation); the following dramas, translated or adapted, 'Julia'; 'Una imprudencia'; 'Don Juan of Austria'; 'Felipe'; 'Roberto Dillon'; 'Siempre'; 'Tu amor o la muerte'; 'Partir á tiempo'; 'Un desafío'; 'Un rapto' (opera); 'El retrato de Shakespeare.' His original drama, 'El conde de Fernan Gonzalez,' met with some success. A complete edition of Larra's works was published by Montaner and Simon, Barcelona.

LARRABEE, lăr'ra-bē, William Clark, American Methodist Episcopal clergyman and educator: b. Cape Elizabeth, Me., 1802; d. 1859. He was principal of Methodist academies at Cazenovia, N. Y. (1831-35), and Kent's Hill, Me., and in 1837 was a member of the Maine Geological Survey. In 1840 he was appointed professor of mathematics and natural science in Indiana Asbury (now De Pauw) University, and in 1852-54 and 1856 was superintendent of public instruction in Indiana. He worked efficiently toward the improvement of educational methods in his denomination. Among the works published by him are 'Scientific Evidences of Natural and Revealed Religion' (1850); 'Wesley and his Co-laborers' (1851); 'Asbury and his Co-laborers' (1853); and 'Rosabower' (1854), a collection of articles written for the *Ladies' Repository*.

LARRAMENDI, lăr'ra-mēn'dē, Manuel de, Spanish Jesuit scholar: b. Andoain, about 1690; d. Loyola, about 1750. He was educated at Bilbao and was professor of theology at Valencia, Valladolid and Salamanca. After serving for some years at court as father confessor to the queen dowager, Maria Anna, he, in 1733 retired and devoted himself to study and writing. Author of 'De la antigüedad y universalidad del vascuence en Espana' (1728); 'El

imposible vencido; arte de la lengua vascu-gada' (1729); 'Discurso histórico sobre la antiqua y hermosa cantabria' (1736); 'Diccionario trilingüe, castellano, vascuence y latino' (1745).

LARREY, lăr'rā, Dominique Jean, BARON, French military surgeon: b. Baudéan, near Bagnères-de-Bigorre, July 1766; d. Lyons, 1842. He studied medicine at the hospitals Hôtel Dieu and Hôtel des Invalides, and visited America before entering the French army in 1793 as surgeon in the German and Spanish campaigns. He was with Napoleon in Italy and again in Egypt, was created a baron and pensioned in 1810. He continued in service and in 1842 was inspector of military hospitals in Algeria. Larrey originated the *ambulance volante* and was noted for his humanity as well as possessing a high scientific reputation. He became known as 'la Providence du Soldat.' Author of 'Mémoires chirurgie militaire et campagnes' (4 vols., 1812-17); 'Relation des voyages et des campagnes de 1815 à 1840' (1840); 'Clinique chirurgicale' (5 vols., 1830-36); 'Recueil de mémoires de chirurgie' (1821), etc. He was also author of many important scientific papers.

LARS, lărz, Roman tutelary deities. Lars is an Anglicized plural, derived from the Latin, Lar, singular of *Lares* (pron. la-raz). Lares occurs on old Italian monuments beside Lars, an older form of the same word. Attempts have been made to identify Lares or its singular Lar with an Etruscan word, Lar, Larth, Larthi or Larthia, common on sepulchral inscriptions, equivalent to the English "lord" or "lady," "king" or "hero"; and possibly akin to another Tyrrhenian word Laran, name of the Etruscan god of war. But this attempt has not met with general favor. In Döllinger's opinion the Lares were deified ancestors, or souls of men, personifying the vital powers, and so assure the duration of a family, over whom their protection was supposed to extend. Wissowa, on the contrary, holds the Lares to have been originally protecting spirits of lots of arable land, above which rose shrines at those spots (*compita*) where the paths bounding such lands met those of another's holding. Wissowa rejects therefore the older idea of deified progenitors. Holding, as he does, that the Lares were originally gods of the cultivated fields, thence he derived them, claiming that from such agrarian status they later appeared within the Roman home.

Some, looking upon the Lares as earthly beings, discern a distinction thus between them and the Manes on one hand, and between them and the Penates on another. Such as perceive this distinction regard the Manes as infernal spirits; and say the Romans regarded the Penates as heavenly. Yet all authorities agree that Manes, Penates and Lares were regarded as guardian spirits by those who worshipped them.

From very early times a distinction existed between private and public Lares. The Lares domestici (private Lares of the home) were worshipped by the Roman household, and by the family alone. One of those household gods, the Lares familiares, who accompanied the family whenever the residence was changed, was conceived of as the very centre of the household cultus. One view regards the Lares do-

mestici as souls of virtuous ancestors, who (according to the Roman idea) were set free from the realm of shadows by Acherontic rites; exalted into deities; which thereupon became protectors over their progeny, as household gods.

The *Lars publici* (public lars), enjoyed a wider sphere worship, and received particular names from the place over which their influence was supposed by the Romans to extend. Among these may be mentioned (1) *Lares compitales* originally two in number, the mythic sons of *Mercurius* and *Lara* (or *Larunda*), guardian spirits of the cross-roads, where their shrines were erected, and in whose honor an annual festival, the *Compitalia* or the *Laralia* was held, the celebration itself falling in the month of December, a short time after the observance of the *Saturnalia*. It was not alone the cross-roads, but also the whole neighboring district, town and country, which felt and acknowledged the divinity and the power of the *Lares compitales* of their respective localities. (2) *Lares Urbani*, presided over cities. (3) *Lares præsites* originally tutelaries of the public common: finally guardians of the state. On the *Via Sacra* near the *Palatine Hill*, they had a temple and an altar. On coins they appear as the figure of a young man, wearing a *chlamys*, holding a spear, seated with a dog, symbol of vigilance. (4) *Lares viales*, of the roads, protecting genii of travelers. (5) *Lares permarini*, of the sea. (6) *Lares rustici*, of the country. (7) *Lares hostilii*, who guarded the state from enemies. The *Lares grundules*, too, should not be omitted. Their worship was connected with that of the white Sow of *Alba Longa* and its 30 young. Opposed to the *Lares*, who were peaceful, happy spirits of the dead, were the *Larvæ*, bearing a name which betrays its connection with the Latin word *Lar* just as the parallel word form "*arvum*" or "*arvas*" betrays its affinity with the Latin word "*arare*." These *Larvæ*, unlike the *Lars*, were uncanny and disquieting apparitions, as were likewise those ghost-like spectres, which the Roman knew as *Lemures*.

The *Lars* were worshipped daily in the Roman home, particular honors being paid them on the *Kalends*, the *Nones* and the *Ides*, of the Roman month. Originally each household had only a single *Lar*; and the shrine, a small domestic chapel, sheltering an image of the good spirit, was kept in each home,—the Roman gave this shrine the name of *Ædícula* or *Lararium*. The image of the god was sometimes of stone, of wood, of metal, in the last case, sometimes even of silver.

In early times the *Lar* stood in the *Atrium*; but later, when the family hearth was removed, it was placed elsewhere in the Roman home. At home a Roman felt himself surrounded by invisible friends and guardians, and these sentiments found expression in festive gatherings, at which the *Lararium* was thrown wide open, and the exposed *Lar* garlanded about with flowers. Every morning a prayer was made to the idol, and at each meal offerings of food and of drink were set before him. Then a part of the offering was placed on the hearth and finally taken up and shaken into the flames. Whenever a son of the family assumed the *toga virilis*; whenever the birthday of the head of the family recurred: whenever a new bride

entered into the family circle; or whenever the festival of the *Caristia* in memory of the deceased was celebrated, on these and on the occasion of every other event of importance to a Roman family, special offering and sacrifice were made to the *Lar*. He (for as the Romans conceived this idol, he was an animated being) was on such occasions crowned with wreaths of flowers; cakes and honey, wine and incense, and swine,—all were laid before him. The worship of the *Lares* persisted throughout the Roman pagan period, changing its character considerably as time went on; and its hold upon the Roman soul appears to have been such, that long after the inception of Christianity we hear of a Roman emperor, *Alexander Severus*, who numbered among his household gods, besides images of *Alexander of Macedon*, and *Abraham*, a figure, even the *Lar of Jesus Christ*. The *Lar* was represented variously. Sometimes as a youth, his head covered by a hat, with a traveler's stave in one hand, and accompanied by a dog. Again, we find the *Lar* figured as a youth: in short, high-girt tunic (symbolic of readiness to serve); he holds a *ryton* (drinking horn) in one hand and carries a *patera* (cup) in the other. Witness to domestic happiness or misfortune, the *Lar* hallowed every domestic occurrence; his presence rendering every Roman home, as it were, a sacred temple. "No other nation," remarks one student of comparative religion, "except the Chinese, have carried the religion of the home so far" as have the Romans in their worship of the *Lares*.

LARSSON, *lär'sön*, *Carl Olaf*, Swedish painter: b. Stockholm, 28 May 1853. He studied in Stockholm and in Paris. After some ambitious early attempts he engaged in illustrating, gaining for himself the title of the "Swedish *Doré*." He then took up water-color painting and in the spring of 1883 he exhibited at the *Paris Salon* two water-colors which won a medal. He was from the first especially happy in his handling of colors, his work being spirited and vigorous and full of gaiety and charm. While he is credited with a French vivacity, the Scandinavian point of view is clearly expressed. He excelled in outdoor subjects and in pictures of home life. He also distinguished himself as a mural painter as well as in the field of water-color and oil painting. He was an earnest advocate of maintaining the national type of dress and coloring, pleading for the so-called "gaudy peasant colors that are needed contrasts to the ice and snow" of his native land. He executed the illustrations for *Rydberg's* (*Singoalla*) and the mural paintings in the *Fürstenberg Gallery* and the *National Museum*, Stockholm. Died, 1919.

LARVA, the young of an animal, when it differs from its parents in form and manner of life. In most invertebrates and in some of the lower vertebrates, the animal hatched from the egg is so different from the adult that in many cases the relationship was long unsuspected by naturalists, and the little creatures were given names as separate beings,—*zoëa*, *nauplius*, etc., now applied to the forms of *larvæ* they represent. These *larvæ* may grow by imperceptible degrees into the stature and likeness of the adult; or they may pass by comparatively sudden changes through a series of more or less

different forms, until finally the adult form is reached and retained. In the latter case the development is said to be by metamorphosis (q.v.), most completely and familiarly manifested by insects. Whatever the method, the course of larval growth in its successive stages recalls the phylogeny of its race—that is, the course of its evolution in history. Thus each of the various phases of the larval life of any of

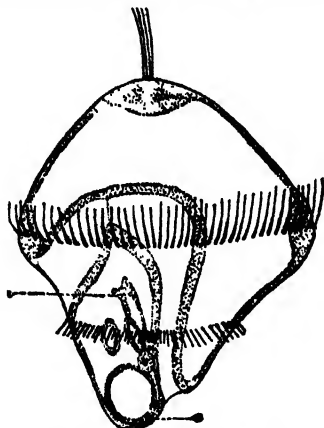


FIG. 1.—A trochophore: a, anus; m, mouth.

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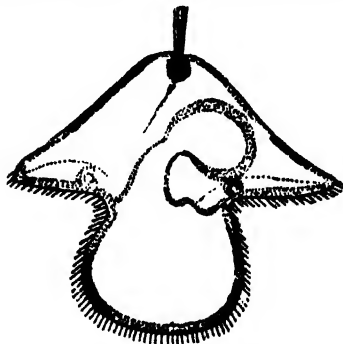


FIG. 2.—A pilidium.

stomach of the worm. The worm itself develops inside the pilidium and later escapes from it to continue its existence, leaving the rest to die.

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All of the lower and some of the higher crustacea pass through a so-called *nauplius* stage (Fig. 3). The adult crustacean consists of several segments, but the nauplius is without joints, has a single eye, a straight alimentary canal, the mouth being overhung by an enormous upper lip, and three pairs of appendages, which later become changed into the two pairs of antennæ and the mandibles of the adult. The first pair of the nauplian appendages are

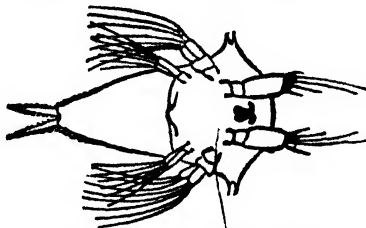


FIG. 3.—Nauplius of *Sacculina*.

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Possibly the most remarkable larvæ occur among the echinoderms. These forms, exemplified by the starfish and sea-urchin, are noticeable for their radial symmetry, but in the larvæ, of which there are several distinct types, not a trace of a radial arrangement of parts can be found. They are rather markedly bilaterally symmetrical, with well-marked dorsal and ventral surfaces, which, however, do not correspond with the upper and lower surfaces

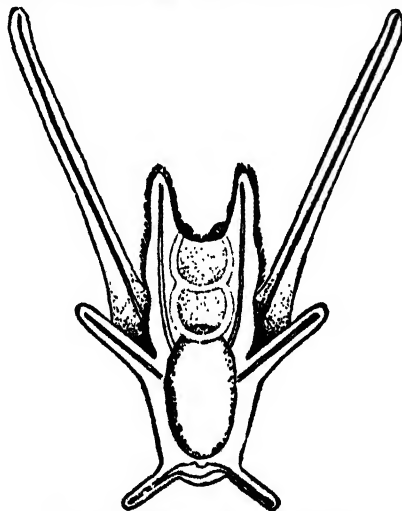


FIG. 4.—Pluteus of a sea-urchin.

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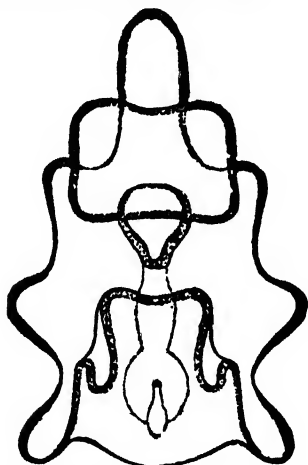


FIG. 5.—Bipinnaria of a starfish.

The larval forms of insects vary greatly both in their form and in the completeness of their metamorphosis. They may be divided into two classes, the *eruciform* and the *thysanuriform*. The former include those which are worm-like, such as the caterpillars of moths and butterflies, the grubs of beetles, the maggots of flies, and the like. They are the most numerous and conspicuous forms, and are active and voracious, and do nearly all the damage to be attributed to injurious insects. The thysanuriform larvae are those which nearly resemble the parents, such as the nymphs of the dragonfly and related groups. The second stage of larval life among insects is a very different existence, usually stationary and quiescent, and is called the *pupa stage* (see PUPA). Some larvae among insects and elsewhere may breed—a phase of reproduction called paedogenesis.

The value of the different forms and habits of life assumed by animals in passing through the larval stage or stages is that it tends to prevent the extinction of the species, since if at any moment all the adults were swept out of existence, the young living in a different station would continue to represent and revive the species. "This law is seen to hold good among the insects," as Alpheus S. Packard points out, "where many species are represented in the winter-time by the egg alone, others by the caterpillar, others by the chrysalis, while still others hibernate as imagoes. Again, in the marine species, the free-swimming young are borne about by the ocean and tidal currents, and in this what in adult life are the most sedentary forms become widely distributed from coast to coast and from sea to sea." On the other hand, the larval forms of fixed marine animals serve as food for fishes, especially young fishes and numerous invertebrates, which, without this resource, would starve; and larvae of insects are the principal resource for food of birds in the breeding season, when all the small, inland birds must feed their nestlings on caterpillars and grubs, for the most part, even when they are seedeaters as adults. Certain larvae enter extensively into the food-supply of many mammals, and are even eaten or become otherwise useful

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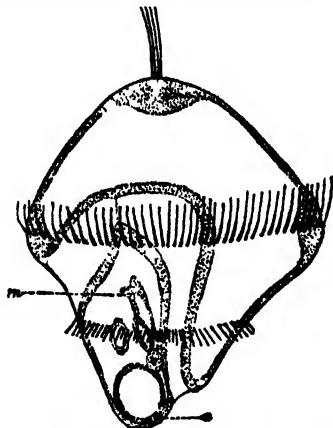


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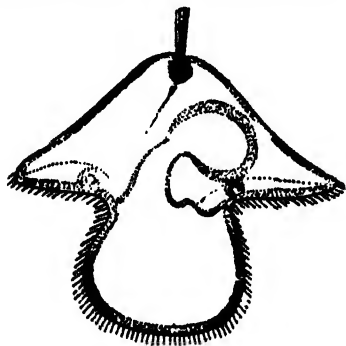


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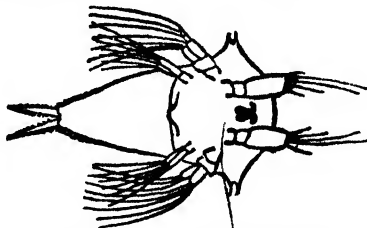


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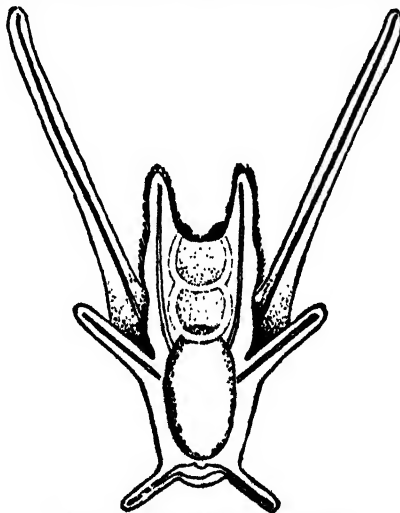


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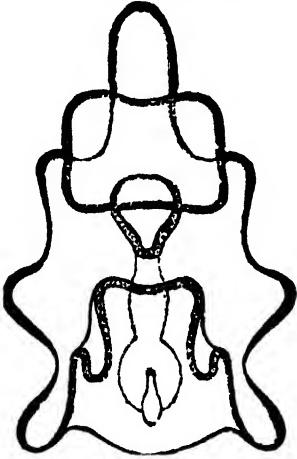


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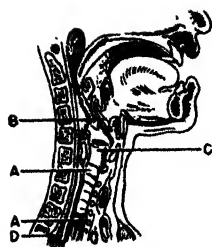


FIG. 1.
Larynx internally.

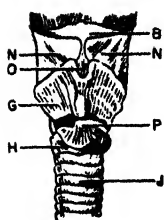


FIG. 2.
Larynx externally.

prominence known as the Adam's apple. The cricoid is a ringlike single cartilage at the lower end of the larynx and is connected with the first tracheal ring. The epiglottic cartilage is also single and is covered for the most part by mucous membrane. It is thin and leaflike, standing between the root of the larynx and the body of the hyoid bone. It guards the entrance to the larynx and prevents passage of foreign bodies into the trachea.

The larynx is provided with two sets of muscles, the extrinsic or outer group acting upon the voice box as a whole, and the intrinsic or inner group which act upon its parts, modifying the size of the opening of the glottis and the degree of tension of the vocal cords. These last are folds which form lips that can be approximated to upper tracheal opening (glottis). Variations in the form of the chink of the glottis produced by muscular action will effect changes in the sound and pitch of the voice as well as its quality and volume, in much the same way as tones are produced by musical instruments.

The mechanism of the larynx, as described, is essential to life, since without its protective function man would choke to death on attempting to swallow food. It is, however, not an essential organ of speech, a useful voice being often obtained following surgical removal of the larynx. Its function as a regulatory respiratory organ is important. The speech mechanism is best understood if it is borne in mind that the larynx makes only a sound by setting in motion a column of air while articulate words (phonation) are formed by the molding action of the pharynx, tongue, palate, lips, and teeth upon the column of air. In the accompanying cut, Fig. 1 shows C the larynx internally, B the epiglottis, A the trachea, and D the esophagus. In Fig. 2, J is the ringed trachea, B the hyoid bone, N the hypothyroid membrane, O the hypothyroid ligament, G the thyroid cartilage, H the cricoid cartilage, P the median cricothyroid ligament. See also NOSE AND THROAT, DISEASES OF; VOICE.

HAROLD W. JONES, M.D.

LAS ANIMAS, lās ān'ī-mās, city, Colorado, seat of Bent County, situated at an altitude of 4,050 feet on the Arkansas River, 20 miles east of La Junta, and served by the Atchison, Topeka and Santa Fe Railroad and federal and state highways. Located in the fertile Arkansas Valley with its farming, poultry and livestock raising, and dairying, it is a shipping point for much of the produce. It has a general hospital and there is a veterans hospital nearby. It was founded in 1869 and incorporated in 1882. Pop. (1950) 3,223.

LAS CASAS. See CASAS, BARTOLOMÉ DE LAS.

LAS CASES, lās káz', COMTE Emmanuel Augustin Dieudonné Marin Joseph de, French historian, one of the companions of Napoleon at St. Helena: b. Chateau Las Cases, near Revel, June 21, 1766; d. Passy-sur-Seine, May 15, 1842. He was educated at military schools in Vendôme and Paris, and when the revolution broke out he took part with the Royalists. After the defeat of the Prussians in Champagne (1795) he fled to London, where he lived as a teacher. While here he executed his *Atlas historique, chronologique, géographique et généalogique* (1803-1804), which he published in Paris under the name of Lesage.

When the émigrés were recalled by Napoleon, Las Cases returned to Paris. Having entered the army of Jean B. J. Bernadotte (1809) he gained the favor of Napoleon, who in 1810 made him chamberlain and count of the empire. In 1814 he refused to assent to the request for Napoleon's abdication and went to England, returning to France during the Hundred Days. After the final defeat of the emperor at Waterloo he followed him to St. Helena, where with his son he devoted himself to the care of Napoleon, and passed his evenings in recording the emperor's remarks. These were subsequently published in his *Mémorial de Sainte Hélène* (1821-1823). Having written a letter to Lucien Bonaparte commenting freely on the treatment to which Napoleon was subjected, he was sent from the island in November 1816 to the Cape of Good Hope, presently being taken to England, and then to the Continent and to Frankfurt-am-Main, where he at last received his liberty after 13 months captivity. He was not allowed to return to France until the death of Napoleon. He wrote, in addition to the works above mentioned, his own life, *Mémoires d'E.A.D., Comte de las Cases* (1818).

LAS CRUCES, lās krōō'sēs, town, New Mexico, seat of Dona Ana County, at an altitude of 3,895 feet, situated near the Rio Grande, 42 miles north-northwest of El Paso, Texas, and served by the Atchison, Topeka, and Santa Fe Railroad, federal highways, and an airport. Las Cruces is situated in an irrigated fruit, alfalfa, cotton, sugar beet, and livestock raising region, and near the silver, lead, and fluorspar deposits of the Mesilla Valley. The New Mexico College of Agriculture and Mechanic Arts (q.v.) is near the city, and the White Sands Proving Grounds lie to the northeast.

Founded in 1848, Las Cruces was incorporated as a town in 1907. Its attractive climate has considerably increased its population during the last few years. Pop. (1950) 12,325.

LAS PALMAS, lās pāl'mās (officially LAS PALMAS DE GRAN CANARIA), seaport city, Grand Canary Island, capital of Las Palmas Province, the fourth port of Spain and first in point of tonnage, situated in the northeast of the island, 57 miles southeast of Santa Cruz de Tenerife and 830 miles southwest of Cadiz. It is an attractive place, beautifully situated in a fertile valley, and contains a fine town hall and a museum richer in aboriginal remains than any other in the world. Besides the 18th century cathedral, it has a number of quaint churches. Christopher Columbus attended Mass in the original building of one of them before setting out for America in 1492. There is a large resi-

dential colony of Englishmen, who control a good part of the business of Las Palmas.

The principal industries are fishing, ship-building, and the manufacture of woolen goods, fertilizer, wines (the famous Canary sack), matches, ceramics, hats, leather goods, and glass. Potatoes, bananas, tomatoes, almonds, dried fish, cochineal, tobacco, and sugar are among the exports. The adjoining port of Puerto de la Luz is an important fueling and supply station for deep-sea vessels. Steamer services are maintained at this island crossroad with the principal European ports, and with the west coast of Africa, Australia, New Zealand, and America. Pop. (1950) 151,411.

LAS VEGAS, lās vā'gās, city, Nevada, seat of Clark County, at an altitude of 2,033 feet, 225 miles northeast of Los Angeles and 25 miles west-northwest of Hoover Dam, served by the Union Pacific Railroad, federal highways, and an airfield with scheduled service. The principal source of income are tourists, who have made this town a Mecca for pleasure seekers because of its night clubs, gambling casinos, and resort hotels. Mining, railroading, and stock-raising are carried on in the area. Manufactures are dairy products and beverages. Originally a watering place on the trail to California, the site was first occupied by the Mormons in 1855 and was abandoned two years later. In 1903 it was made a division point of the railroad, and in 1911 it became a city. It has a public library and two hospitals, and within the decade between the 1940 and 1950 census has taken a phenomenal leap in population making it the second largest city in the state. It has a commission form of government. Pop. (1950) 24,624.

LAS VEGAS, city and town, New Mexico, in San Miguel County, situated at an altitude of 6,392 feet on both sides of the Callinas River, and served by the Atchison, Topeka and Santa Fe Railroad, state and federal highways, and a municipal airfield. It is situated about 40 miles by air east of Santa Fe. The city, sometimes called East Las Vegas, is the county seat, and contains the newer industrial and residential sections. Located in a cattle and sheep raising country, it has a brickyard and a creamery. It also has a Carnegie library, the New Mexico Highlands University, and the New Mexico State Hospital for the Insane. The city and town have a mayor and council government. A well-known health and pleasure resort, there are hot springs and dude ranches in the vicinity. A United States Air Force base is situated here.

The town of Las Vegas, sometimes called Old Town or West Las Vegas, was settled between 1823-1833 by Spaniards, and in 1846 Gen. Stephen Watts Kearny, commanding the Army of the West, took possession of it for the United States. To the east is Conchas Dam (1939), constructed for flood control and water and power supply purposes. Pop. (city and town, 1950) 13,763.

LASCARIS, lās'kā-rīs, Constantine, Greek scholar and grammarian: b. Constantinople, 1434?; d. Messina, 1501. He came of a Bithynian noble family, which had among its members three emperors of Nicaea in the 13th century. The fall of Constantinople in 1453 forced him to flee to Corfu. He later went to Italy where he

was appointed Greek tutor to Hippolita, daughter of Duke Francesco Sforza of Milan. He taught in Rome and later went to Naples at the request of Ferdinand I where he delivered a course of lectures on Greece. He also taught in Spain, and for the last 35 years of his life he taught Greek at Messina. Among his pupils there was the future Cardinal Pietro Bembo. He collected and copied many manuscripts which he willed to the University of Messina, and which were taken to Spain in 1712 and placed in the National Library in Madrid. His *Grammatica Graeca, sive compendium octo orationis partium* (1476) was the first work printed in the Greek language.

LASCARIS, Theodore I, emperor of Nicaea; d. 1222. He came of a noble Byzantine family, was son-in-law of Alexius III and was distinguished by his exploits in defeating the Latin invasion of Constantinople in 1203-1204. After the fall of the city he went to Nicaea and there founded a new Byzantine state which became a rallying point for his countrymen and of which he became emperor in 1206. He maintained his empire against the aggressions of the Latin emperor of Constantinople and Alexius I (Grand Comnenus) of Trebizond, carried successful war into the enemy's territory and in 1210 he captured Alexius and wrested considerable territory from the Seljuk Turks. His daughter, Irene Lascaris, married his successor, John III Ducas, and became the mother of Theodore II, who reigned from 1254-1258, and recovered Thrace from the Bulgarians in 1255-1256.

LASKER, lās'kēr, Eduard, German politician: b. Jarotschin, Posen, Oct. 14, 1829; d. New York City, Jan. 5, 1884. He was of Jewish descent, and was educated at the universities of Breslau and Berlin. He spent three years in England in the study of political conditions there, and on his return entered the government service. He was elected in 1865 to the Prussian Chamber of Deputies and subsequently sat both there and in the lower house of the German Diet for the district of Meiningen. He was for a time associated with the "Fortschrittspartei" or Progressives, and in 1866 assisted in forming the National Liberal Party, from which he later withdrew in opposition to Otto E. L. von Bismarck's economic policy.

He took an active part in the civil consolidation of the German Empire, and had a great deal to do with judicial reform, contributing more than any individual of his time to the codification of the German law.

LASKER, Emanuel, German chess champion: b. Berlinchen, Dec. 24, 1868. He chose mathematics as a profession, but eventually turned his attention to chess, playing with such success that from 1892 he triumphed over all competitors both in tournaments and duel matches. He outplayed, without losing a single game, Joseph H. Blackburne, Henry E. Bird, and Jacques Mieses of Leipzig. In 1892 he won the first prize in the London tournament, and in the International tournament at New York in 1894 beat all the best players, including William Steinitz, champion of the world. A decisive match was then arranged between him and the famous Steinitz at Moscow and came

off December 1896 and January 1897. Lasker won by 10 games to 2, 5 being drawn. He had arranged a match with the celebrated Russian player, Akiba Rubenstein (b. 1880), for August 1914, which was canceled on the outbreak of the First World War. He maintained his world's championship until 1921, when he lost at Havana, Cuba, to José Raúl Capablanca (1888–1942); he resigned the match on the plea of ill health after losing 4 games, drawing 10, and winning none. In 1902–07 he published *Lasker's Chess Magazine*, and he also wrote works on chess, mathematics, and philosophy. During his last years he made his home in New York City, where he died Jan. 11, 1941.

LASKI, lās'ki, Harold Joseph, British political economist, historian, and author: b. Manchester, June 30, 1893; d. London, March 24, 1950. He went to New College, Oxford University, where he took a first class in the Honor School of Modern History in 1914. Already attracted to the labor movement, he wrote editorials for the London *Daily Herald*, and, not accepted for military service in the First World War, he went to Canada in the fall of 1914 to become lecturer in history at McGill University. In 1916 he transferred to a like post at Harvard, and during the four years he was there he was also Henry Ward Beecher lecturer at Amherst College, 1917, and Harvard lecturer at Yale University, 1919–20. Returning to Britain in 1920, he joined the faculty of the School of Economics and Political Science, London University; he was appointed professor of political science in 1926, and meanwhile, as an active figure in the Fabian Society, he had become one of Britain's leading interpreters of socialism. During 1922–25 he lectured on political science at Magdalene College, Cambridge University; he returned to Yale as visiting professor in 1931, and as Storrs Lecturer two years later; he went to Moscow in 1934 to lecture at the Institute of Soviet Law; and he was Donnellun Lecturer at Trinity College, Dublin, in 1936. In 1926 he was named a member of the Industrial Court, and subsequently he served on several other official and semiofficial bodies. He had joined the Labour Party in 1920, and soon he became identified with its left wing. Believing that capitalism was doomed, he asserted that the peaceful acceptance of socialism was the only alternative to revolution. During the Second World War he was given no post in the coalition administration formed by Prime Minister Winston (Leonard Spencer) Churchill, but nevertheless he exerted great influence in the formulation of the Labour Party's policy and development of its legislative program. In January 1944 he was elected vice chairman of the party's national executive committee, and in May of the following year he succeeded Ellen Wilkinson as chairman. He sought no parliamentary seat in the general election of July 1945, but after the Labour Party had been returned to office he continued to be one of its most powerful figures. From 1920 he was a regular contributor to *The Nation*, a liberal weekly published in London, and he wrote a large number of works, which included: *The Problem of Sovereignty* (1917); *Authority in the Modern State* (1919); *Communism* (1927); *Democracy in Crisis* (1933); *Parliamentary Government in England* (1938); *The American Presidency* (1940); *The Danger*

of Being a Gentleman (1940); *Where Do We Go from Here?* (1940); *The Strategy of Youth* (1941); *Marx and Today* (1943); *London—Washington—Moscow: Partners in Peace?* (1943); *Faith, Reason, and Civilization* (1944); *Will Planning Restore Freedom?* (1944).

LASO DE LA VEGA, Garci. See GARCILASO DE LA VEGA.

LASSA, lās'sä. See LHASA.

LASSALLE, lä-säl', Ferdinand, German Socialist: b. Breslau, April 11, 1825; d. Geneva, Aug. 28, 1864. He studied at the universities of Breslau and Berlin.

Toward the end of 1844 he met at Berlin the Countess Sophie von Hatzfeldt, who had contracted an unfortunate marriage, conducted her suit for separation and 11 years later brought it to a successful issue. He first made himself known as a leader during the democratic troubles in 1848, and was imprisoned for a year for alleged inciting to revolt. In 1858 he produced a work on the philosophy of Heraclitus, and in 1861 published his *System of Acquired Rights*. Thereafter he proceeded to organize the working classes, which caused the government to accuse him of sedition, and he was imprisoned for four months. He was at first allied with the party of the Progressists, but in 1862 he broke with them; in 1863 he issued his famous *Offenes Antwortschreiben*, a brochure in which he set forth his working-class program, and later in the same year founded a labor union (allgemeiner deutscher Arbeiterverein), and began Socialist propaganda in Germany. In 1864 he published an attack on the Manchester school of economists, under the title *Herr Bastiat-Schultze von Delitzsch der ökonomische Julian, oder Kapital und Arbeit*. In the summer of the same year he was killed in a duel occasioned by a love affair.

LASSELL, lä-säl', William, English astronomer: b. Lancashire, June 18, 1799; d. Oct. 5, 1880. In 1820 he built an observatory at Liverpool, devising an improved type of reflecting telescope and a method of polishing the specula. With this telescope he discovered the satellite of Neptune in 1847, observed the eighth satellite of Saturn in 1848, and in 1851 discovered two new satellites of Uranus. In 1861, at Valetta, on the island of Malta, he mounted equatorially a reflecting telescope, and at that place, until 1865, he made observations, also describing new nebulae and correcting many of his former results.

LASSEN, lās'sen, Christian, Norwegian philologist and linguist: b. Bergen, Norway, Oct. 22, 1800; d. Bonn, Prussia, May 8, 1876. He studied at Christiania, Heidelberg, and Bonn, at which last university he became, in 1830, extraordinary, and, in 1849, ordinary professor. With Eugene Burnouf (q.v.) he deciphered many Pali MSS., and the result of their labors was published by the Asiatic Society in an *Essay on the Pali or Sacred Language from the Peninsula beyond the Ganges*. He published with August Wilhelm Schlegel (q.v.) the *Ramayana* and the *Hitopadesa*, and was for many years editor of the *Zeitschrift für die Kunde des Morgenlandes*. His works related to a variety of Oriental languages and ancient history, embracing translations from the Hindu philosophy, the history

of Bactriana, Cabool and India, and cuneiform inscriptions.

LASSEN, Eduard, Danish composer: b. Copenhagen, 13 April 1830; d. Weimar, 15 Jan. 1904. He began his education at Brussels and 1851 won the "Prix de Rome." Through Liszt his opera 'Landgraf Ludwigs Brautfahrt' was produced in Weimar (1875), where he was made the following year "Kapellmeister" to the court. He retired in 1895. Of his compositions those which are most remarkable for talent and artistic sincerity are the operas 'Frauenlob' (1860); 'Le Captif' (1868). He wrote two symphonies and the music for Sophocles' 'Œdipus' and Goethe's 'Faust,' as well as numerous songs, etc.

LASSEN PEAK, Cal., volcanic peak of the Sierra Nevadas, on the boundaries between Plumas, Shasta, Lassen and Tehama counties, about 135 miles north of Sacramento, in latitude 40° 28' north. It was supposed to be extinct, but on 30 May 1914 clouds of steam and ash issued from the summit, and on 8 June and 18 July 1914 a column of steam rose to a height of 10,000 feet above the crest. The activity was credited to the great earthquake preceding it in Alaska and California. Its ancient lava beds are of vast extent and there are boiling springs and hot mud lakes at the base of the mountain. Altitude, 10,577 feet.

LASSERRE, la'sār, Paul Joseph Henri de Monzie, French religious writer: b. Carlux, 25 Feb. 1828; d. 1900. He studied law at Paris and in 1851 created a sensation by the publication on 2 December of 'L'Opinion et le coup d'état,' written in favor of the *coup d'état*. He was active in behalf of Poland, gaining the Pope's condemnation of the massacres of Warsaw; gained wide attention by his strictness on Renan's 'Vie de Jésus'; and was later noted for his writings on the Lourdes pilgrimage, where he stated that he had received benefit, and over which he had a bitter controversy with Zola. Author of 'L'Esprit et la Chair' (1859); 'La Pologne et la Catholicité' (1861); 'L'Evangile selon Renan' (1862); 'Notre-Dame de Lourdes' (1869); 'Episodes Miraculeux de Lourdes' (1883), etc.

LASSO, a long strong thong of buffalo-hide, rope or leather, with a running noose at one end, used by ranchmen and hunters. It is thrown in such a way as to fall over the horns or head of the animal, the hunter coiling one end round a high pommel on his saddle. When he makes a successful cast the hunter spurs his horse to its fullest speed, and the horse or other animal is almost strangled or borne to the ground and becomes an easy prey. Instead of a noose a leaden ball may be attached to the end of the thong, which is thrown so as to entangle the legs, neck or horns of the animal to be captured. The lasso has been used in the South American wars: it was employed against the French sentinels by some of the semi-barbarous tribes whom Russia had pressed into her armies during the Crimean War.

LASSO-CELLS, or **STINGING CELLS**, names applied to the cnidocysts of coelenterates. See NEMATOCYST.

LASSON, lä'són, Adolf, German scholar: b. Strelitz, Mecklenburg-Strelitz, 12 March 1832. He was educated at the University of

Berlin, where he became privat-docent of philosophy in 1877 and honorary professor in 1897. He was greatly influenced by the philosophy of Hegel. Author of 'Baco von Verulams wissenschaftliche Principien' (1860); 'Das Kulturideal und der Krieg' (1863); 'Meister Eckhart der Mystiker' (1868); 'Giordano Bruno' (1872); 'Das Gedächtnis' (1894); 'Der Leib' (1898); 'Aristotelische nikomachische Ethik' (1909), etc. Died, 1917.

LASSUS, la'süs', Jean Baptiste Antoine, French architect: b. Paris, 19 March 1807; d. Vichy, 15 July 1857. He studied at the École des Beaux-Arts and under Lebas and Labrousse. From Labrousse he imbibed the influences which started him toward the pre-eminence he attained in the 19th century Gothic revival in France. He was engaged with Duban and Viollet-le-Duc in the restoration of Sainte Chapelle in 1840-56, and in 1842 he began with Viollet-le-Duc the restoration of Notre-Dame. He was also engaged in the restoration of Saint-Germain-l'Auxerrois, the cathedral of Moulins and built the church of Saint Nicolas de Nantes as well as other churches and convents throughout the provinces of France. He was a contributor to *Annales archéologiques* and author of 'Monographie de la cathédrale de Chartres' in collaboration with Didron and Amaury Duval (1843); 'Réaction de l'Académie des beaux-arts contre l'art gothique' (1846); annotated 'Album de Villard de Honcourt' (1858).

LASSUS, Orlandus, or **LASSO, lä'sō Orlando** (originally ROLAND DELATTRE), German composer: b. Mons, in Hainaut, 1520 or 1530; d. Munich, June 1594. As a composer he was excelled only by Palestrina among musicians of the 16th century. About 1556 he went to Munich as chapel-master to Albert, Duke of Bavaria, and in 1562 became chapel-master, an office which he held till his death. Among his more than 2,000 works are some 60 masses, many madrigals and songs, and the celebrated music for the Seven Penitential Psalms. In the royal library at Munich is the richest collection of his works. His sons published a collection of his motets entitled 'Magnum Opus Musicum' (1604, 17 vols., folio). An edition of his collected works appeared at Leipzig 1893, et seq.

LAST DAYS OF POMPEII, The. Bulwer-Lytton's 'The Last Days of Pompeii,' published in 1834, has as its subject the destruction of Pompeii by fire, water, ashes and lava in the terrible eruption of Mount Vesuvius in the year 79 of the Christian era. The novel was mainly written at Naples near the scene of the ancient calamity in order that all incidents pertaining to it might be completely visualized. Bulwer climbed Mount Vesuvius, studied the excavations of the ruined city and was generally well prepared for the task by his knowledge of the classical literatures. It was his aim to restore the decadent life of Pompeii just before the destruction of the city. He reanimated, as it were, the skeletons found in houses, baths, temples and forum, all of which places he minutely described. These old skeletons, clothed in flesh and blood, became the dramatis personæ of his plot. Most of them were buried in the ruins; but the hero and heroine, Glaucus and Ione, escape by the aid of

Nydia, the Thessalian blind girl, and, being Greeks, retire to Athens. Nydia, hopelessly in love with Glaucus, drowns herself in the sea. Among others who survived is Olinthus, the Christian, who converts Glaucus and Ione to the new religion in which they are supremely happy.

Bulwer's novel annoys the reader of the present day by its stilted style, its melodrama and its sentimentalism; but these and other grave faults cannot blind the critic to the fact that 'The Last Days of Pompeii' is the most successful novel we have dealing with ancient life and manners, so difficult to restore at all. The catastrophe which Bulwer chose for his theme at once interests and appalls; and the last chapters, descriptive of the awful fate that overcame the inhabitants of Pompeii, reach a high level of vivid narration, quite sufficient to keep the novel alive.

WILBUR L. CROSS.

LAST JUDGMENT, The, subject of religious paintings based upon Matt. xxv, 31, et seq., when Christ shall return to judge the world. It was a subject much favored by mediæval artists, some of the greatest religious paintings and frescoes being founded upon the idea. Among them are that by Fra Angelico at the Florence Academy; one by Fra Bartolommeo painted in 1498-99 on the wall of the cloister of Santa Maria Nuova at Florence; Jean Coussin at the Louvre; a fresco by Giotto at Santa Maria dell' Arena, Padua; the fresco by Michelangelo in the Sistine Chapel at the Vatican; by Rubens in the Munich Gallery; by Tintoretto at Santa Maria dell Orto, Venice; the fresco by Peter von Cornelius at Ludwigskirche, Munich.

LAST LETTERS OF JACOB ORTIS, 'Ultime lettere di Jacopo Ortis' (1802), the most significant prose work of the Italian poet, Ugo Foscolo, is an autobiographical novel in epistolary form. Begun in 1798 when the author was a mere boy of 20 the history of this book is a romance in itself. Published in unfinished form in 1799, continued for an impatient editor by the unscrupulous Angelo Sassoli whose unauthorized edition was repudiated by Foscolo when he brought out his true text in 1802, the 'Ultime lettere' shows the influence of Rousseau's 'Nouvelle Héloïse' and still more of Goethe's 'Werther.' Like its German predecessor which antedated it by a quarter of a century, Foscolo's narrative reflects the pessimism, the unhealthy sentimentalism and the excessive morbidity of that period of social and political upheaval. The suicide in 1796 of Girolamo Ortis, a fellow student at the University of Pavia, Foscolo's unhappy love affairs, the Treaty of Campo Formio (17 Oct. 1797) by which Austria acquired Venice and which caused the poet's departure from his adopted state, became the genesis of these letters which so deeply stirred the patriotic ardor of the Italian youth of the succeeding generation. An exile from Venice, Ortis (Foscolo), in a series of letters to his friend Lorenzo (G. B. Niccolini), laments his country's servitude and gradually lays bare his hapless passion for the lovely Teresa, the affianced and later the bride of another. This correspondence runs from October 1797 until March 1799, when the wretched youth stabs himself to death after

writing an affecting farewell to Teresa. Such scenes as the meeting between Ortis and the aged poet Parini, the incident of the kiss, the final parting with Teresa and some splendid descriptions of nature, are full of feeling. The language, while not exempt from affectations, is a robust, eloquent and animated poetic prose. Although the intermingling of the patriotic motive with the love idyll weakens the unity of the work, the loss in artistic effectiveness is compensated by the intense passion for liberty that animates Ortis. It is the first modern Italian novel of incontestable merit and the harbinger of the romantic movement in Italy. Consult Martinetti and Antona-Traversi for a critical edition of the text (Saluzzo 1887); Albertazzi, A., 'Il Romanzo' (Milan 1902); Mazzoni, G., 'L'Ottocento' (Milan 1913); Marinoni, E., 'Prose . . . di Ugo Foscolo' (Milan 1913).

ALFRED G. PANARONI.

LAST OF THE MOHICANS, The. 'The Last of the Mohicans' was the second of the Leather-Stocking series which Fenimore Cooper wrote, and it stands second in the order in which these novels present the deeds and emotions of the greatest character American fiction has furnished to the world of the imagination. Perhaps less realistic than 'The Pioneers,' and less poetical than 'The Prairie,' 'The Last of the Mohicans' is still the most representative not only of the series, but of Cooper's romances in general. In this tale Leather-Stocking first reaches his true proportions. 'The Pioneers,' in which he had first appeared, had shown him somewhat hardened by age; only at the end of that book, when Natty, in search of simplicity and perfect freedom, withdraws from the settlements and plunges into the deeper woods, does he make his full appeal. In 'The Last of the Mohicans,' which presents Hawkeye, as he is now called, in the prime of his strength and valor, he has grown nobler as he has grown more remote, more the poet and hero as the world in which he moves has become more wholly his own. Chingachgook has undergone an even greater change. He had been known in 'The Pioneers' as Indian John, a drunken old vagabond who was dignified only by his death. 'The Last of the Mohicans' restores to him his cunning and pride. The purest romance of the story lies in Uncas, the son of Chingachgook, gallant, swift, courteous, a lover for whom there is no hope the last of his mighty line. Cooper was perfectly willing to admit that Uncas was idealized, like other epic and romantic heroes. It is clear also that Uncas possesses many of the virtues which Rousseau had said are to be found in the state of nature. Romantic idealization, however, and romantic sentiment cannot deprive Uncas of the perennial appeal which youth makes when cut off in the flower. Nor is a book which has added three such personages to fiction to be too lightly dismissed as without power of characterization.

The action and setting of 'The Last of the Mohicans' are on the same high plane as the characters. The forest, in which all the events take place, surrounds them with a changeless majesty which deepens, by contrast, the restless sense of danger. Flight and pursuit,

Cooper's favorite plot-device, fill almost the entire book; two white girls, being escorted from Fort Edward, on the Hudson, to Fort William Henry, on Lake George, are pursued by the hostile savages who infested that region during the French and Indian War; they are captured and, after another desperate pursuit, rescued. The thrilling contest is carried on with every subtle trick known to Magua, the villain, and to Hawkeye and the Mohicans, who are the real heroes of the piece, although there is a conventional lover for one of the conventional girls. Among the most moving moments in fiction is that in which Uncas reveals himself to the Delawares; of all Cooper's climaxes it is the one built up with the greatest skill. The coincidences are occasionally strained, and the style is careless, but the narrative force of the book, no matter what its defects, is too compelling for it to be called less than a masterpiece.

CARL VAN DOREN.

LAST PURITAN, The, a novel by George Santayana (q.v.), published in 1936, with the subtitle, *A Memoir in the Form of a Novel*.

A study of American puritanism gone to seed, the book is presented with great fullness through the wealthy effete New England antecedents, and the short hollow life (and accidental death in France during World War I) of the leading character, Oliver Alden. He befriends his cousin Mario Van de Weyer, whose zestful hedonism is in sharp contrast with Oliver's asceticism, intellectuality, and moral earnestness. The cousins form a compound hero whose double personality advances the argument of the novel. They play Siamese-twin roles opposite young women who also lend themselves to the idea of a composite heroine. Edith Van de Weyer is an American hothouse product of money and position; the other, Rose Darnley, the daughter of an English clergyman, who contracted an unfortunate marriage, is a sheltered garden flower, grown exquisite through isolation and simple living. They have about them the atmosphere of specimens under the lens of an intellectual microscope.

Sophisticated and multitudinous insights and judgments upon wealth, social pretension, education, taste, ideas, emotions, and motivations crowd the cerebral climate of the novel which, in sum, resembles a brilliant and eloquent symposium, not unlike a Platonic dialogue that has been translated into modern language, dress, point of view, and geographic motility. As one of the characters is made to say in the epilogue, which comments on what has gone before: "There is clairvoyance in every quarter; whereas in the real world we are all unjust to one another and deceived about ourselves."

MARKHAM HARRIS,

Department of English, University of Washington.

LAST ROSE OF SUMMER, The. See GEORGE MOORE.

LASTMAN, läst'män, Pieter, Dutch painter: b. Amsterdam, 1583; d. Haarlem, 1633. He studied under Gerrit Pieterz and, in Rome, with Elsheimer. He established a studio in Amsterdam, and in 1623, Rembrandt became one of his pupils. His work was largely of religious and mythological subjects and includes: *Repose in Egypt* (1608), Rotterdam Museum; *Adoration of the Shepherds* (1629), Haarlem Museum; and *Raising of Lazarus* (1632), Hague Museum.

LASUS, Greek lyric poet: b. Hermione, Argolis. He lived during the reign of Hipparchus, in the early part of the 6th century. A teacher of music and poetry to Pindar and a rival of Simonides, he was the author of the first treatise on music theory and is considered inventor of the dithyrambus.

LASZLO de LOMBOS, Philip Alexius, Hungarian-British portrait painter: b. Budapest, 1869; d. Hampstead, England, Nov. 22, 1937. He received art training in Budapest, Munich, and Paris, and by the end of the century had become one of the famous portrait painters of the time. In 1899, for his portrait of Prince Hohenlohe, he was awarded the gold medal of the Paris salon and won it again the following year for a portrait of Pope Leo XIII. Famous contemporaries whom he painted included: President Woodrow Wilson, President and Mrs. Calvin Coolidge, King George V, Gen. John J. Pershing, and Benito Mussolini.

LATACUNGA, lä-tä-kōng'gä, Ecuador, capital of Cotopaxi province, located 25 miles from the great volcano Cotopaxi, and has been damaged repeatedly by earthquakes. It is about 50 miles south of Quito on the Qyayaquil-Quito railroad and is a manufacturing center of woolens and cottons. Pop. (1938 est.) 17,800.

LATAKIA, lä-tä-kē'a, Syria, seaport town opposite the island of Cyprus and located 75 miles north of the town of Tripoli. Seleucus Nicator originally named it Laodicea ad Mare in honor of his mother; in the Roman period it was known as Julia. It was the seat of an ancient bishopric and was a wealthy city at the time of the Crusades. Establishment of the tobacco trade in the 17th century gave new life to the city, and tobacco-raising is still the chief industry. Pop. (1943) 36,687.

LATE GEORGE APLEY, The, a novel by John P. Marquand (q.v.), published in 1937, with the subtitle, *A Novel in the Form of a Memoir*.

When George Apley died in Boston, his son John requested an historian (John called him "a compiler of distinguished pasts") to assemble his father's letters and papers into a memoir which would have a family circulation of 15 copies. From these documents emerges a portrait of George Apley, who once said of himself: "I am the sort of man I am, because environment prevented my being anything else."

John Marquand gives an excellent description of that environment. George Apley came from a Boston family who moved from South End to Beacon Hill because his father had seen a neighbor outdoors in his shirt sleeves. He was educated at Mr. Hobson's private school, Harvard College, and Harvard Law School. He made the conventional young gentleman's tour of Europe, attended by an elder aunt and uncle. When George complained that "instead of gaining much impression of different cultures, we have succeeded in transferring our own culture momentarily upon every place we visited," his uncle said: "Find a Bostonian and you will find a citizen of the world."

George Apley married Catharine Bosworth, a Boston girl of whom his parents approved wholeheartedly, and lived the quiet, uneventful life of lawyer, husband, father, and model gentleman. He was not a prude, although he unwillingly

ingly accepted the social changes that were taking place around him. He once wrote in a letter to his son John: "There are certain duties one cannot escape." George was a member of the Browsers' Club where he read papers on such topics as "Adventures in Reform" and "Jonas Good and Cow Corner." He had civic responsibilities with the Boston Waifs' Society and the Apley Sailors' Home. His life was filled with other worries: the removal of a Damask rose bush; the exhumation of Cousin Hattie Apley; his daughter's knowledge of Sigmund Freud; and the disposition of his grandmother's locket which contained his grandfather's hair. As an old man he made another trip to Europe; this time he wrote: "Rome is really a delightful place, particularly when one brings one's own group with one."

John Marquand's picture of a Bostonian's life between 1866 and 1933 is satiric but very understanding. *The Late George Apley* was awarded the Pulitzer Prize for fiction in 1938 and was successfully dramatized for the stage by Marquand and George S. Kaufman.

LATERAN, palace and church at Rome, the name being derived from Plautius Lateranus, whose estates were confiscated by Nero. The palace was given to Pope Melchisedes in 312 by Constantine and was the residence of popes for a thousand years. The Lateran basilica is the cathedral of Rome and the highest ranking church of the Roman Catholic Church.

LATERAN COUNCILS, five ecumenical councils of the Roman Catholic Church, held in the church of Saint John Lateran, Rome, under the presidency of the Pope. The first Lateran Council, attended by 300 bishops, took place in 1123, under Calixtus II. The Concordat of Worms (the agreement between the emperor and the Pope) was confirmed; the indulgences granted to the Crusaders by Urban II were renewed; the consecrations performed by Burdin, the anti-pope, were annulled; the decrees against simony, marriage of the clergy, etc., were repeated. The second (1139), under Innocent II, attended by 1000 bishops, laid the interdict upon King Roger of Sicily, excommunicated the Petrobrusians, and ordered Arnold of Brescia to keep silent. The third (1179), under Alexander III, decreed that a vote of two-thirds of the total conclave should be required legitimately to elect a pope. The fourth, convened by Innocent III in 1215, is the most important of all the Lateran Councils. Besides representatives of many princes, two Oriental patriarchs were present, 412 bishops and 800 abbots and priors. Seventy decrees were issued. The first, directed against the Cathari and Waldensians, contains a confession of faith, in which the term *transubstantiation* occurs for the first time. The second decides the Trinitarian controversy between Petrus Lombardus and Joachim of Floris (in favor of the former). The 13th forbids the foundation of new monastical orders. The 21st decrees that all the faithful shall confess at least once a year to his sacerdos proprius (Mansi xxii 953-1086). The fifth (1512-17), which was convened by Julius II and continued in 1517 under Leo X, and was not recognized by the Gallican Church, abrogated, on the command of Julius II, the Pragmatic Sanction issued by the Council of Pisa, and approved the con-

cordat between Francis I of France and the Pope by which the "liberties" of the Gallican Church were abrogated. Consult Valentini, 'Basilica Lateranense descritta ed illustrata' (1839); Buddeus, 'De Conciliis Lateranensibus,' Jena (1725); von Kefelé, 'Concilien-geschichte' (9 vols., Freiburg 1855-90).

LATERITE, a highly ferruginous, argillaceous rock or soil, found in India. The laterite of the highlands results from the weathering of the underlying volcanic rocks in situ. "Low-level laterite" is the surface-rock of the extensive low lands near the western coast; is formed from the debris of volcanic rocks of the region and of highland rocks. True laterite is a mixture of ferric hydroxide and aluminum hydroxide, with a small amount of free silica. It differs from true clay, in that the aluminum is present as a hydroxide, instead of as the silicate, kaolinite. Laterite is sometimes rich enough in iron to constitute an ore of that metal.

LATEX. The name, Latex, was first applied to certain plant juices which have a white, milky appearance. The white juice of the common milkweeds (*Asclepias*) is a familiar and typical example. The application of the name was then extended to cover similar juices which lack the whitish appearance, like the colorless, slimy juice of the Spider Lily (*Tradescantia*).

The latex is contained in cells which are often remarkable for their length and complexity. In many families of plants, like the *Asclepiadaceæ* (Milkweeds) and *Euphorbiaceæ* (Spurges), the latex cells are differentiated early in the development of the embryo and continue to grow as the embryo develops into the seedling and into the mature plant, and may finally reach a length of many yards. Consequently, they are the longest cells in the plant kingdom. They may branch profusely, but no transverse partitions are formed and, therefore,

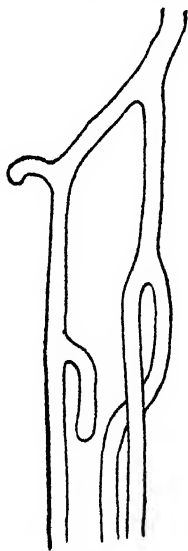


FIG. 1.

they are regarded as unicellular vessels. A portion of a single latex cell is shown in Fig. 1.

The walls of latex cells are generally smooth and thin and more or less elastic. During growth, they weave in and out among

the other cells but do not penetrate them. A small portion of a latex cell surrounded by other cells is shown in Fig. 2.

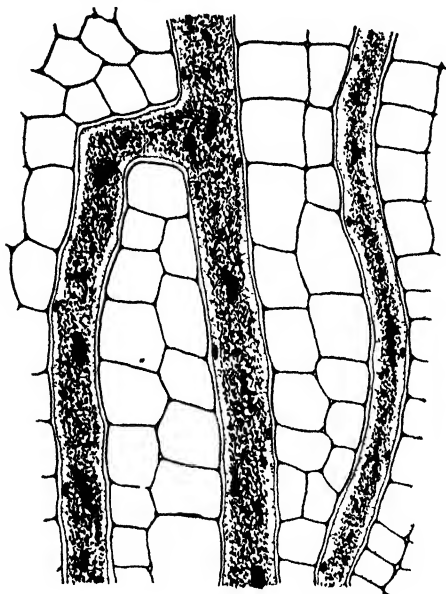


FIG. 2.

Not all of the latex carrying structures are formed in the way just described, for the partitions in rows of cells may become dissolved, so that long vessels are formed, the process being like that involved in the formation of the woody vessels which carry ordinary sap. Whether formed from a single cell or from rows of cells by the breaking down of partitions, long continuous tubes are developed. If there were any transverse partitions, they would interfere with the free flowing of the latex.

The contents of the latex tube or vessels are as varied as the plants which contain them. There is a rather thin layer of protoplasm lining the wall and containing many nuclei and various inclusions, while the hollow part of the vessel contains most of the latex. The consistency of the latex varies, but it is usually a milky sap which flows easily. It contains mixtures of gums and resins, rubber, fat and wax in emulsion. Sometimes there are tannins, salts, ferments and poisonous alkaloids. In the *Euphorbiaceæ* there are also starch grains. Rubber is such an important form of latex that it is treated under its own heading. The great *Euphorbia* trees of South Africa, when cut into with an ax, exude great quantities of a sticky, milky latex which might be of commercial importance.

When a plant containing latex is injured, the latex flows out and quickly coagulates as it is exposed to the air. The latex of *Euphorbia splendens*, a plant very common in the cactus rooms of greenhouses, will pull out into threads as fine as cobwebs, within a minute from the time the cut is made; but in such a small plant the elastic material is not in sufficient quantity to be of any commercial value. In some plants, especially in the flower clusters, the latex tubes are very close to the surface and the tissue covering them is very thin and delicate, so that creeping insects break through

and are held by the rapidly coagulating latex and thus prevented from reaching the nectar, which is reserved for flying insects which can effect cross-pollination. Consult Molisch, H., 'Studien über den Milchsaft und Schleimsaft der Pflanzen' (1901). Various textbooks on botany have paragraphs on latex.

CHARLES J. CHAMBERLAIN.

LATHAM, lä'thām, John, English ornithologist: b. Eltham, 27 June 1740; d. Winchester, 23 Aug. 1837. He studied anatomy under Hunter, engaged in the practice of medicine at Dartford, and in 1796, upon inheriting a fortune, retired in order to devote his time to nature study. He was elected to the Royal Society in 1775, and was active in the establishment of Linnean Society in 1788. He was closely associated with the leading scientific men of his day, and made a notable collection of birds. His last work, the 'General History of Birds,' was written in his ninth decade, and the illustrations were designed, etched and colored by the author. It is his most important work and is referred to by ornithologists as an authority for the assigned names of species. Although Latham has acknowledged faults as a compiler the work is a remarkable achievement. Author of 'A General Synopsis of Birds' (3 vols., 1781-85); 'Index Ornithologicus sive Systema Ornithologiæ' (2 vols., 1790; ed. Johanneau, Paris, 1809); 'General History of Birds' (11 vols., 1821-28), etc.

LATHAM, Robert Gordon, English ethnologist and philologist: b. Billingham, Lincolnshire, 24 March 1812; d. Putney Surrey, 9 March 1888. He was educated at Eton and Cambridge and became professor of English literature in University College, London. He published numerous works on the English tongue, among them 'The English Language' (1841; frequently republished); 'History and Etymology of the English Language' (1849); 'Handbook of the English Language' (1851); 'Elements of Comparative Philology' (1862), and a revised edition of Johnson's Dictionary (1870). His principal works on ethnology are 'Natural History of the Varieties of Man' (1850); 'Man and his Migrations' (1851); 'Ethnology of the British Islands' (1852); 'Ethnology of Europe' (1852); 'Descriptive Ethnology' (1859); 'Russian and Turk' (1878).

LATHROP, lä'thròp, Francis, American decorative artist and portrait painter: b. at sea near the Hawaiian Islands, 22 June 1849; d. Woodcliff, N. J., 18 Oct. 1909. He studied under T. C. Farrar in New York, at the Royal Academy, Dresden, in 1868, and in 1870-73 under Madox Brown in London, and assisted William Morris, Spencer Stanhope and Edward Burne-Jones in the execution of various works. He returned to New York in 1873 and engaged in decorative painting, portraiture and stained glass work. His chief decorative works are in the Metropolitan Opera House, New York; Trinity church and the Bijou Theatre, Boston; and in the chapel at Bowdoin College, Brunswick, Me. His work also appears in many private residences in New York, Albany and Baltimore. Of his stained glasses notable examples are those of the Marquand Memorial in Princeton College chapel, and in Bethesda church, Saratoga

He was one of the founders of the Society of American Artists and an associate of the National Academy of Design.

LATHROP, George Parsons, American author: b. Oahu, Sandwich Islands, 25 Aug. 1851; d. New York, 19 April 1898. He was educated in New York and in Dresden, studying in the latter city from 1867 to 1870, when he returned to New York and for a short time studied law. He went to England and there, in 1871, married Rose, second daughter of Nathaniel Hawthorne. (See **LATHROP, ROSE HAWTHORNE**). From 1875 to 1877 he was assistant editor of the *Atlantic Monthly*; editor of the *Boston Courier* till 1879; resided afterward at Concord, Mass., and in New York. Among his writings in prose and verse the following are best known: 'Rose and Roof-Tree,' poems (1875); 'Study of Hawthorne' (1876); 'Afterglow,' a novel (1876); 'A Masque of Poets' (1877); 'An Echo of Passion' (1882); 'In the Distance' (1882); 'Spanish Vistas' (1883); 'History of the Union League in Philadelphia' (1883); 'Newport' (1884); 'Gettysburg, a Battle Ode' (1888); 'Dreams and Days,' verses (1892); 'Gold of Pleasure' (1892). With his wife he published 'Annals of Georgetown Convent' and 'A Story of Courage' (1894), and he brought out an edition of Hawthorne's works, with a biography (1883). The American Copyright League was founded (1883) by Lathrop.

LATHROP, John (also **LATHROP, LAYTHROP**), American clergyman: b. Yorkshire, England; d. 1653. He was educated at Oxford; took holy orders; was rector at Egerton in Kent; and about the year 1624, in London, became minister (succeeding Henry Jacob) of the first Independent and Congregational church organized in England. He and his congregation underwent annoyance and persecution at the hands of churchmen, and for a time (1632-34) Lathrop was imprisoned. During his confinement he was bereft by the death of his wife and by a division in his flock over a question of baptism, and in 1634 sailed to Massachusetts, where he settled as minister at Scituate, removing in 1639 to Barnstable. The records of these towns kept in "an original register" written by him are referred to as authority by Prince in his 'Annals of New England.'

LATHROP, John Hiram, American educator: b. Sherburne, N. Y., 22 Jan. 1799; d. Columbia, Mo., 2 Aug. 1866. He was graduated at Yale in 1819; from 1822 to 1826 was tutor there; adopted the profession of law, which he followed for six years, then abandoned it for that of teaching. He taught at Norwich, Vt., and at Gardiner, Me. Between 1829 and 1840 held professorships of mathematics, natural philosophy, law, history and economics at Hamilton College; was president of the University of Missouri 1840-49; afterward became chancellor of the University of Wisconsin (1849-59); president of Indiana University (1859-60); professor of English literature at the University of Missouri (1860-62). He was again president of the University of Missouri in 1865, and until the time of his death.

LATHROP, Julia Clifford, American social worker: b. Rockford, Ill., 1858. She was

graduated from Vassar College in 1880 and from 1889 spent much of her time as a voluntary resident at Hull House, Chicago. She specialized in the study of the care of the insane, the education of children and in the development of juvenile courts, and made several tours abroad for the study of methods obtaining in other countries. She served on the Illinois State Board of Charities, was president of the Illinois Society for Mental Hygiene, vice-president of the Chicago School of Civics and Philanthropy, and was appointed the first chief of the new Children's Bureau in the Department of Labor at Washington. She wrote reports and articles on care of the insane, civil service, and of 'The Children's Bureau' (1912). D. 15 April 1932.

LATHROP, Rose Hawthorne, American author: b. Lenox, Mass., 20 May 1851; d. Hawthorne, N. Y., 9 July 1926. She was educated in the public schools, and lived, in 1853-60, in England, where her father, Nathaniel Hawthorne (q.v.), was United States consul at Liverpool (1853-57), and in Portugal; studied art in Dresden and London; and in 1871 married George Parsons Lathrop, with whom, until his death, she was associated in literary labors. She was especially interested in the improvement of conditions for suffering and needy people, and in 1891 established Saint Rose's Free Home for Cancer, and Rosary Hill Home, in New York, where she afterward became head of a Dominican community of the Third Order and directress of a charitable home, her title being Mother Mary Alphonsa. Besides many sketches and stories, her writings include 'Along the Shore,' poems (1888), and 'Memories of Hawthorne,' with her husband (1897), with whom she also collaborated in other works.

LATHROP, William Langson, American painter: b. Warren, Ill., 29 March 1859. He was self-taught in art and has devoted himself to landscape painting. He was awarded the gold medal of the Philadelphia Art Club, won the Webb and W. T. Evans prizes, and was also awarded prizes from the Carnegie Institute and Worcester, Mass. His work is represented in the permanent collections of the Metropolitan Museum of Art, New York; the Carnegie Institute, Pittsburgh; the Albright Gallery, Buffalo; the National Museum of Art, Washington; and the Minneapolis Art Museum. He was elected to the National Academy in 1907.

LATHYRUS, *lath'ë-rûs*, a genus of plants of the family *Leguminosæ*, the vetchlings or everlasting peas, which resemble *Vicia* but have usually fewer leaflets (often two), broader petals, an obliquely truncate staminal tube, and a style longitudinally flattened and bearded on the inner face. The species are numerous and grow in sandy and waste places, or in meadows. *L. pratensis*, the meadow vetchling, a climbing plant, two or three feet long, with yellow flowers, is a familiar example in many parts of the northern hemisphere. Another species (*L. maritimus*) the beach-pea, is equally widespread. The roots of *L. tuberosus* are eatable. *L. sativus* and other species are used as green fodder for cattle in India, but are harmful to pigs; and several species contain a poisonous principal injurious to the human system. *L. latifolius* and *L. sylvestris*, of southern Europe

and England, respectively, are both perennials and known as the everlasting pea. *L. odoratus*, a native of the East, is a common flower garden plant, with fragrant flowers. *L. sylvestris wagneri* is grown as a fodder plant in Germany, France and the United States. It yields abundant green forage and when well started is very resistant to drought. Nearly 60 species of the genus are cultivated for their handsome flowers—yellow, red, scarlet, purple and blue. The larger kinds are well adapted for arbors and shrubberies, where they may climb upon some support.

LATIMER, Hugh, English prelate, reformer and martyr: b. Thurcaston, Leicestershire, about 1490; d. Oxford, 16 Oct. 1555. He was educated at Cambridge, took holy orders, and by and by began to preach Protestant doctrine, which led to vigorous opposition. As one of the representatives of the University of Cambridge, he supported Henry VIII's doubts on the validity of his marriage with Catharine of Aragon; was made chaplain to the king in 1530, and bishop of Worcester in 1535. In 1539 he resigned his bishopric, not being able to accept the Six Articles, and was put in prison, but on the accession of Edward VI he was released and became highly popular at court. This continued until Mary ascended the throne, when Latimer was cited to appear, with Cranmer and Ridley, before a council at Oxford, and condemned. After much delay and a second trial Latimer and Ridley were burned at the stake. His dying words are famous: "Be of good cheer, Master Ridley, and play the man; we shall this day light such a candle by God's grace in England as (I trust) shall never be put out." His preaching was popular in his own time for its pith, simplicity and quaintness, and his 'Sermons' are still read. Consult *Lives* by Demaus (1869); R. M. Carlyle (1899).

LATIMER, James Elijah, American clergyman and educator: b. Hartford, Conn., 7 Oct. 1826; d. Auburndale, Mass., 26 Nov. 1884. He was graduated at Wesleyan University in 1848 and engaged in teaching until 1861 when he became pastor of the Methodist Episcopal church at Elmira, having entered the ministry in 1858. He traveled in Europe in 1868 and in 1870 he was selected as professor of historic theology in the Boston University School of Theology. In 1874 he was appointed dean and professor of systematic theology there, which positions he retained the remainder of his life. He was a contributor to magazines and religious periodicals.

LATIN, The Mechanism of. Under this heading it is proposed to give a brief description of the morphology of Latin with a few preliminary remarks on the Latin alphabet.

1. **The Alphabet.**—Originally and even up until Cicero's time, the Latin language had only 21 characters to represent its sounds. Toward the end of the republic or the beginning of the empire the letters Y and Z were introduced from the Greek alphabet in Greek loanwords, so that at this time there were 23 characters in Latin (6 vowels and 17 consonants), as follows:

ABC DEF GHI KLM NOP
QRS TU (V) XYZ

The 9th and 20th characters, however, had consonantal as well as vocalic values. Unlike the Greek, the Latin alphabet was not borrowed directly from the Phœnician, but through the medium of the Greek alphabet of the Doric-Chalcidian colony of lower Italy.

2. **The Parts of Speech.**—In Latin there are the following parts of speech: noun (which includes substantives and adjectives), pronoun, verb, adverb, preposition, interjection and conjunction. Numerals are considered as adjectives or adverbs accordingly as they are cardinals or ordinals. Participles partake of the nature and functions of both the adjective and the verb. Words which undergo a change in form to indicate a change in meaning are said to be inflected. The last four parts of speech mentioned above are uninflected. The inflection of nouns and pronouns is called declension; that of verbs, conjugation.

3. **Gender, Number and Case.**—In Latin one and the same nominal form indicates simultaneously gender, number and case without any of these categories having a distinctive mark.

A. *Gender.*—There are three genders in Latin: masculine, feminine and neuter. It is difficult, however, to foretell a priori what would be the gender of a given word. In general, masculine and feminine mark a difference of sex, and neuter denotes inanimate objects, but there is also a grammatical gender which must not be confused with the natural gender.

B. *Number.*—Latin distinguishes two numbers: singular and plural. The dual, which in Indo-European served to designate two objects, has completely disappeared, although there are traces of some dual forms, such as *duo* and *ambo*, which however are treated as plurals.

C. *Case.*—Latin possesses six cases: nominative, genitive, dative, accusative, vocative and ablative. The ablative was formerly a local case and with it is confused a case primitively distinct, the instrumental or case of accompaniment and of means. There are also some traces of a locative case, now lost. The use of prepositions with some of the cases supplies some deficiencies of the mere cases in expressing word relationship. The functions of the cases are as follows:

nominative	case of subject or of predicate attribute
genitive	case of complement of noun, whether subjective or objective
dative	case of person or thing interested
accusative	case of direct complement of verb; of extent of space and duration of time; of limit of motion
vocative	case of direct address
ablative:	
real ablative	case of point of departure or origin
instrumental ablative ..	case of means, instrument, manner and accompaniment
locative ablative (in part)	case of place in which
locative	case of time at which or place in which

It is characteristic of Latin that from the very beginning there is a tendency to reduce the number of cases. In the singular the instrumental has disappeared, the locative has only a precarious existence and the vocative and nominative tend to be confused. In the plural Latin never had but one form for the dative, ablative, instrumental and locative, not to mention the single form for the nominative and vocative, whose identity goes back to the Indo-European.

4. The Noun.—Variation of accent plays no part in the declension of Latin nouns, for since prehistoric times Latin had an accent at SINGULAR.

The declension of neuter nouns differs a little from the paradigm below in the nominative, vocative and accusative cases, which in the plural always end in -a.

5. Pronouns.—Pronouns in Latin fall into five chief classes: personal (including possessives), demonstrative, relative, interrogative and indefinite. Although in many respects pronouns do not differ to a great extent from nouns in declension, they have essential characteristics which show clearly that they have their own declension. This is particularly true of personal pronouns whose declension is therefore given here:

nominative	ego	tū	(demonstrative)	nōs	vōs	(demonstrative)
genitive	mei	tui	sui	nostrum, nostri	vestrum, vestri	sui
dative	mihi	tibi	sibi	nōbis	vōbis	sibi
accusative	mē	tē	sē, sēsē	nōs	vōs	sē, sēsē
ablative	mē	tē	sē, sēsē	nōbis	vōbis	sē, sēsē

a fixed place, and the displacements of the Indo-European movable accent, of which some traces are found in Greek, have entirely disappeared in Latin. Moreover, the Indo-European variation of the quality or quantity of stem-vowels, a phenomenon called ablaut or vowel gradation, which is not preserved intact in any one language, leaves but few traces in Latin. The Indo-European noun was composed of a stem, to which was added an ending which, concurrently with the vocalic variations of the stem, marked at once the number, gender and case. Since the vocalic variation of stem was almost entirely eliminated in Latin, Latin declension is to be recognized by the endings. The Latin grammarians laid down five types of declension according to the relation between the nominative and genitive:

	1	2	3	4	5
nom.	rosa	dominus	dux mens classis	manus	diēs
gen.	rosae	domini	ducis mentis classis	manūs	diēi

This distinction is very artificial, although it is always taught. The following paradigm shows the case-endings of the five declensions:

	1	2	3	4	5
nominative	rosa	dominus	dux mens classis	manus	diēs
genitive	rosae	domini	ducis mentis classis	manūs	diēi
dative	rosae	dominō	duci menti classi	manui	diēi
accusative	rosam	dominum	ducem mentem classem	manum	diem
vocative	rosa	domine	dux mens classis	manus	diēs
ablative	rosā	dominō	duce mente classe	manū	diē

PLURAL.

nominative & vocative	rosae	domini	ducēs	mentēs	classēs	manūs	diēs
genitive	rosarum	dominorum	ducum	mentium	classium	manuum	diurum
dative & ablative	rosis	dominis	ducibus	mentibus	classibus	manibus	diibus
accusative	rosās	dominōs	ducēs	mentēs	classēs	manūs	diēs

distinguishes personal and non-personal forms. The former, which are the more important, comprise the tenses and moods provided with personal endings; the latter, declinable or indeclinable forms which by their origin and their morphology are attached to the substantive.

Personal forms comprise three moods: indicative, or mood of reality or affirmation; imperative, which serves to give orders; and subjunctive, or mood of subordination, which marks will and anticipation and in Latin also wish, possibility and condition. Each of the stems has three tenses in the indicative: present, imperfect or past, and future; the imperative has no past and the subjunctive no future or future perfect. Each of these tenses has two numbers: singular and plural; there is no dual. Each of these numbers has three persons: first, second and third (except the imperative which has not the first).

Non-personal forms comprise: *a*, verbal substantives: infinitive (present and perfect in the two voices), gerund and supine, which form a sort of declension of the active infinitive; and *b*, verbal adjectives: participles (present and future active, perfect and future passive).

Latin has not merely one conjugation, but it is difficult to find a satisfying classification. The distinction into four conjugations, imagined by the Latin grammarians and still in use in the teaching of Latin, takes into account only the present and even here unites two different formations. In the perfect it is even altogether improper. But the division into thematic and non-thematic or athematic verbs is equally unsatisfactory. The four conjugations now generally adopted in teaching are those whose stem ends in *-ā* (first conjugation), *-ē* (second conjugation) and *-ī* (fourth conjugation), together with the third conjugation which includes, among others, all those verbs whose stem ends in a consonant and requires a thematic vowel to join it to the personal or tense endings. There are quite a few verbs which do not fit

into these artificial categories, such as *sum* ("I am"), *volo* ("I wish"), *fero* ("I bear"), etc.

The personal endings of all the tenses (indicative and subjunctive) in the active voice except the perfect indicative are:

Person.	Singular.	Plural.
1	-ō or -m	-mus
2	-s	-tis
	-t	-nt

The personal endings of all the tenses (indicative and subjunctive) of the present stem in the passive and in deponents are:

Person.	Singular.	Plural.
1	-r	-mur
2	-ris or -re	-mini
3	-tur	-ntur

The personal endings of the perfect indicative tense in the active are:

Person.	Singular.	Plural.
1	-i	-imus
2	-isti	-istis
3	-it	-erunt, -ere

The personal endings of the tenses (indicative and subjunctive) of the perfect stem in the passive and in deponents are formed by the participle and the auxiliary verb.

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